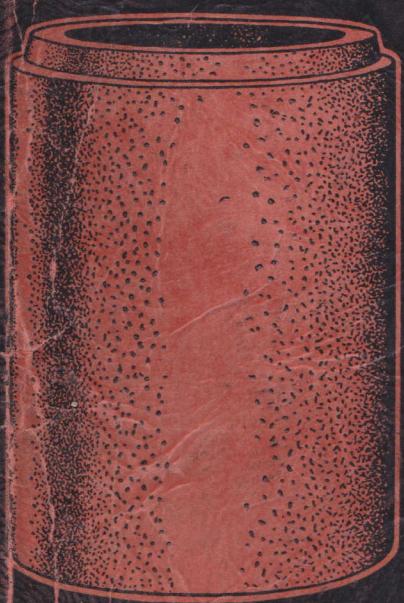


The
**QUINN
STANDARD™**



CONCRETE PIPE CONSTRUCTION

**QUINN WIRE &
IRON WORKS**

BOONE IOWA

**QUINN
CONCRETE
PIPE FORMS**



Quinn

Quality

Since 1900, when the Quinn Wire & Iron Works was established, the products of this company have won a favorable reputation which has been carried to the far corners of the world.

Quinn facilities are specialized for the production of Concrete Pipe Forms and the Quinn Concrete Pipe Machine. By constant effort and improvement Quinn equipment is accepted as standard wherever concrete pipe is used.

"Quinn" pipe has become known as a standard of quality in concrete pipes among engineers in charge of construction of sewers, culverts and big drains.

Our policy of making Quinn equipment to rigid specifications of accuracy and strength has been proved wise in hundreds of practical applications "on the job."

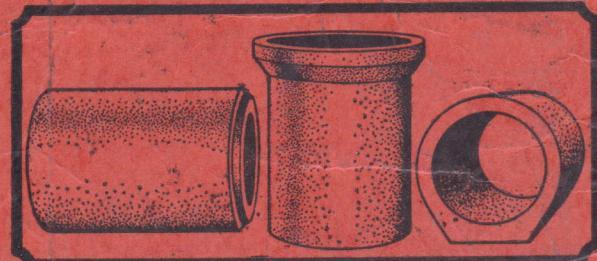
We will continue to build up to a standard—not down to a price. Our 40 years has proved the wisdom of doing that.

We thank our old patrons for their business and trust that we may continue many years of pleasant business relations with leaders in the industry.

C. C. QUINN,
President.

Quinn Wire & Iron Works

Boone • Iowa



Years of Satisfactory Service Built Into **QUINN** Forms

IN SELECTING equipment for making concrete pipe, you really are buying the Excellence of a finished product, as light flimsy forms are expensive at any price. The very nature of the product you will produce requires the best form you can get, even if the first cost is a little more.

In Quinn Concrete Pipe Forms, you are buying more than just Pipe Forms. You get also, the advantages of equipment based on 40 years of manufacturing experience — plus features that are known to improve the quality of finished concrete pipe.

Quinn Forms are offered to you as the standard of excellence in every way. They are made of heavy material, strongly reinforced to withstand rough usage and to hold their shape at all times. Because of their rigid construction, Quinn Forms produce a high grade pipe of correct shape and dimensions because they do not give when the concrete is being rammed into place.

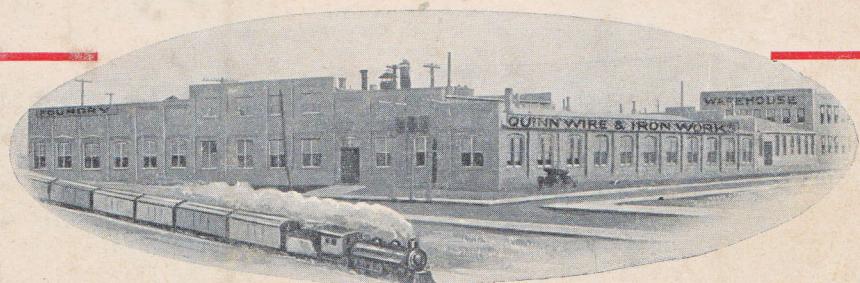
Quinn Forms hold their shape during jarring, vibration or any other method that is used to settle the concrete into a dense mass.

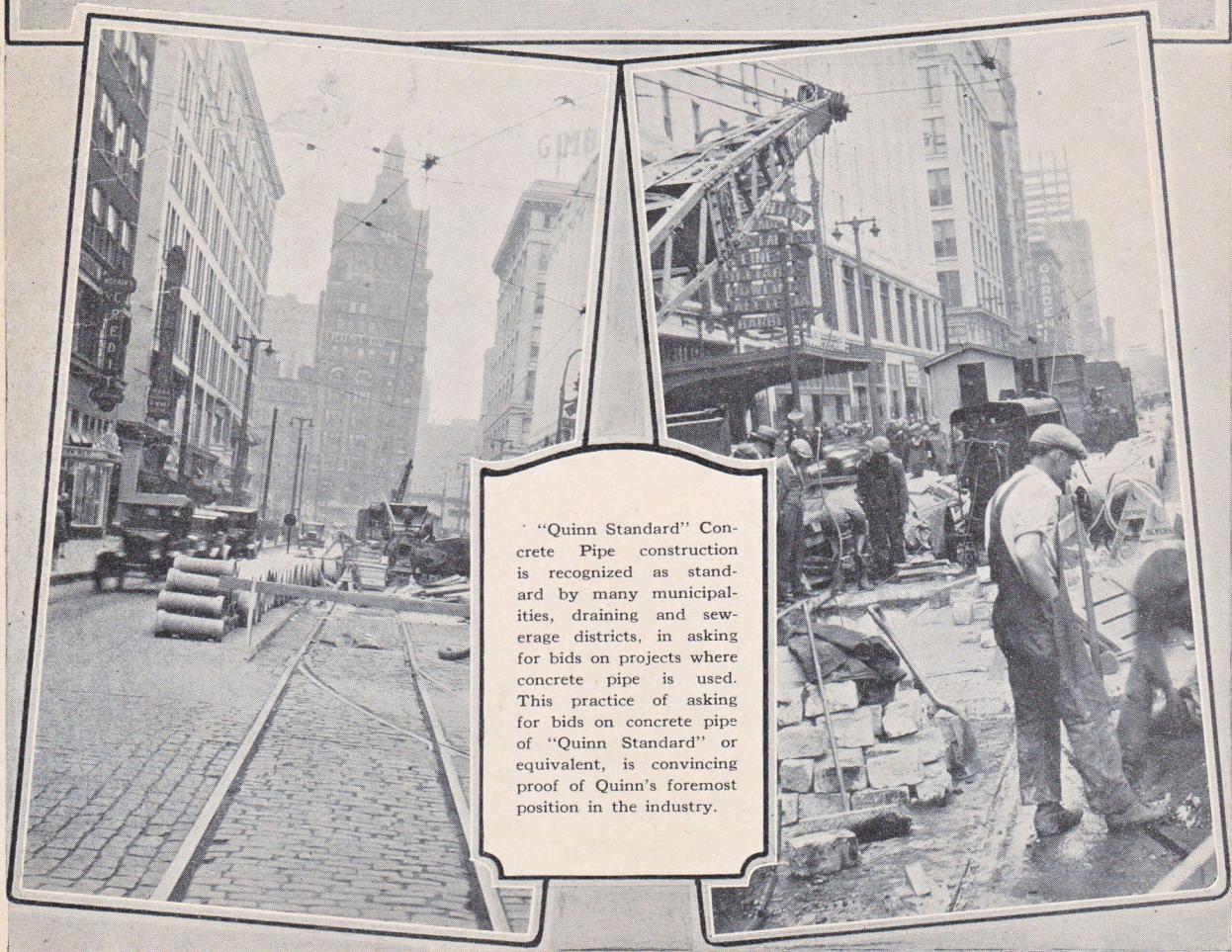
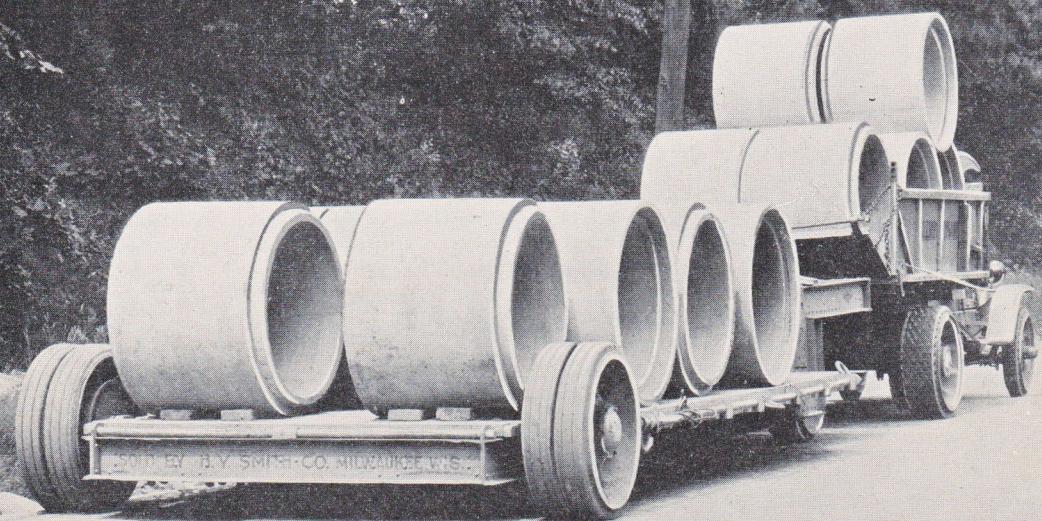
Exclusive with Quinn Forms is the unique butt-joint one-piece core with collapsible device that is positive in action and effective in results.

Outstanding are the precision machined joints of Quinn Forms which produce practically water-tight joints throughout. This feature eliminates the common trouble of bleeding at the joints, which causes the cement to wash away, leaving a sandy appearance.

You will find Quinn Forms second to none in satisfactory performance in actual use. Year after year, they have stood up and "made good" everywhere.

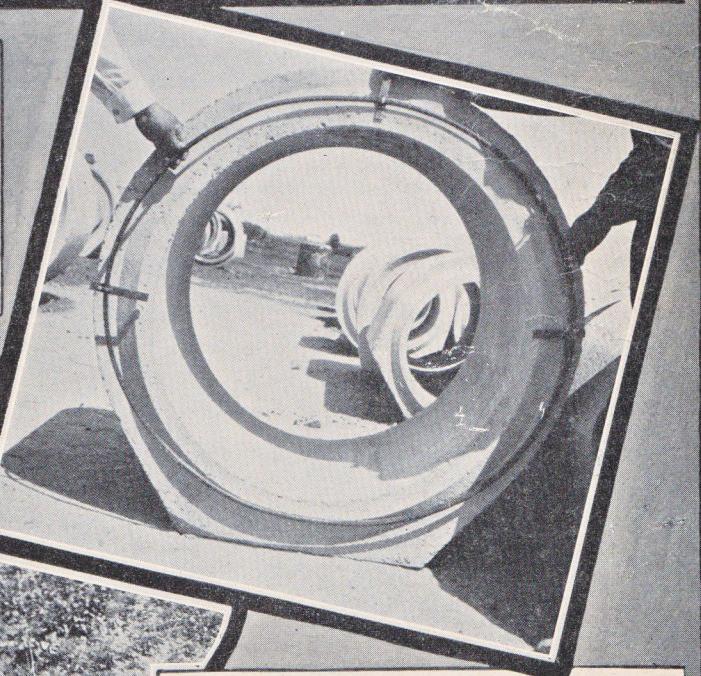
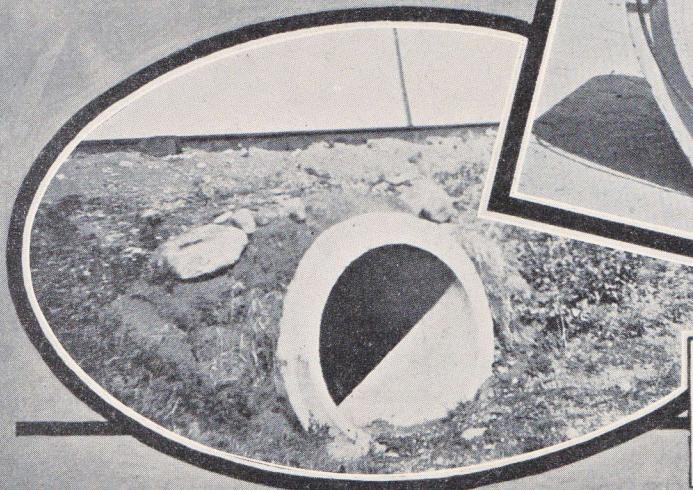
When you order, you are assured that you will be satisfied and we know we have made a good customer and will have your good will.







Picture above shows the culvert and sewer pipe in the curing yards. Flat bottom pipe is easily produced with Quinn Machine as standard sewer or drainage pipe.



Above, showing method of reinforcing for flat bottom concrete pipe. Picture on the left shows typical installation of Quinn Flat Bottom Culvert Pipe.



Texas Irrigation

Irrigation engineering is changing from open ditches to closed conduits for many reasons, chief among which are losses in water evaporation and, the greatest of all, seepage of the ditch water into the orchards causing the ruination of hundreds of fine orchards.

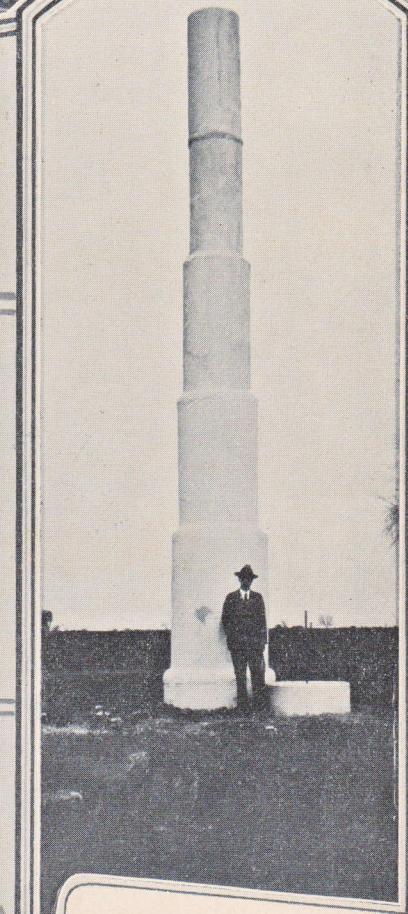
To overcome this, concrete pipe has been found to be the most practical and suitable for the work.

The largest irrigation project in this country using concrete pipe almost exclusively was constructed in the Rio Grande valley by the Hidalgo County Water Improvement District No. 2, of San Juan, Texas. The project embraces something over 78,000 acres and required over 2,000,000 feet of pipe in sizes from 16" to 72" in diameter.

Quinn equipment for making the concrete pipe was used throughout and the high quality, high strength, high hydrostatic and low absorption test pipe has produced lines of water pipe that is giving the very best of service.

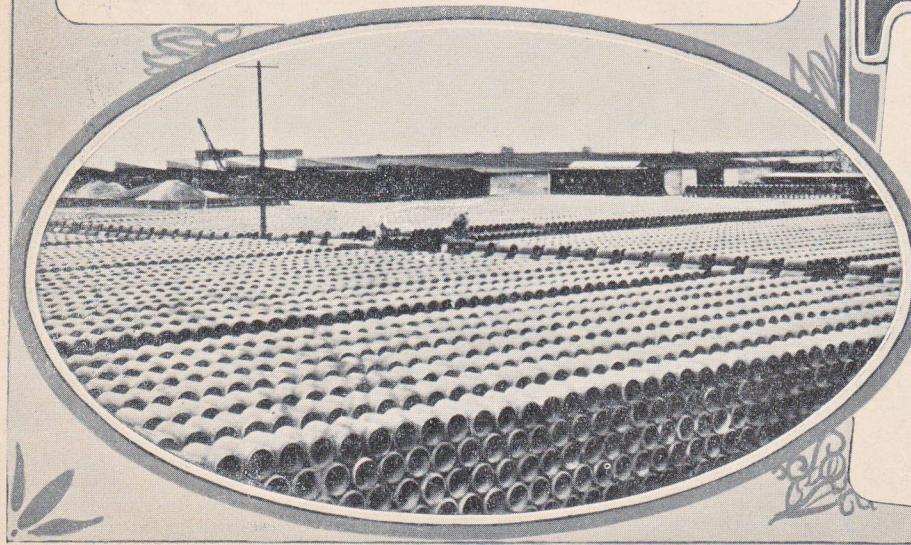
The Hidalgo people were determined to have the very best and to this end equipped their plant with what they considered the very best concrete pipe producing equipment. They used the very best materials possible, made their own valves and all things necessary for the proper construction of the project. They built well and for all times to come. The men in charge of manufacture and construction had experience of long duration which added greatly to the success of the undertaking. The management consisted of a General Manager, ably supported by a Board of Directors. The success of the undertaking was the result of the conservative management of the personnel of the organization.

The concrete pipe used in this construction is beyond doubt the highest grade ever used in a similar project and will be a lasting monument to a desire for something that might be better than the best.



Above is shown a surge well and cap stand which is 34 feet high constructed of Quinn machine-made pipe.

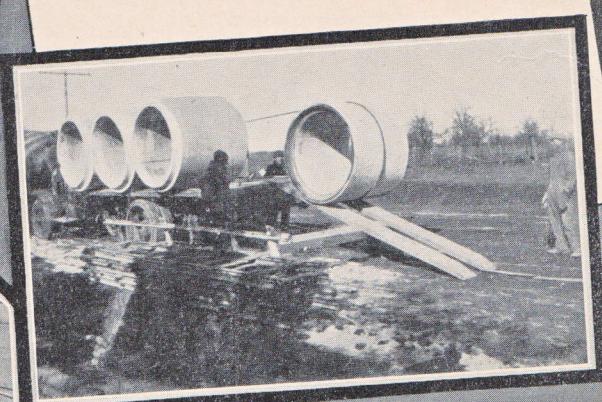
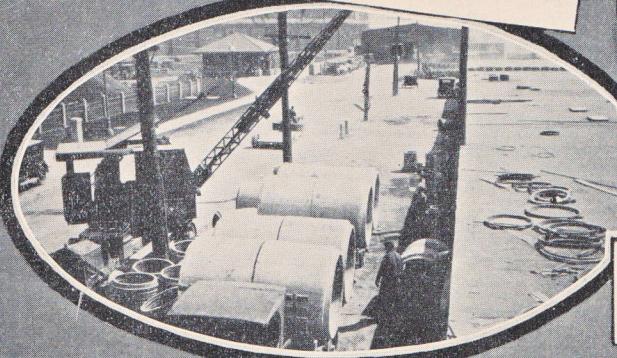
On the left is shown 150,000 feet of 16" and 18" irrigation pipe in the Hidalgo storage yard at San Juan, Texas.



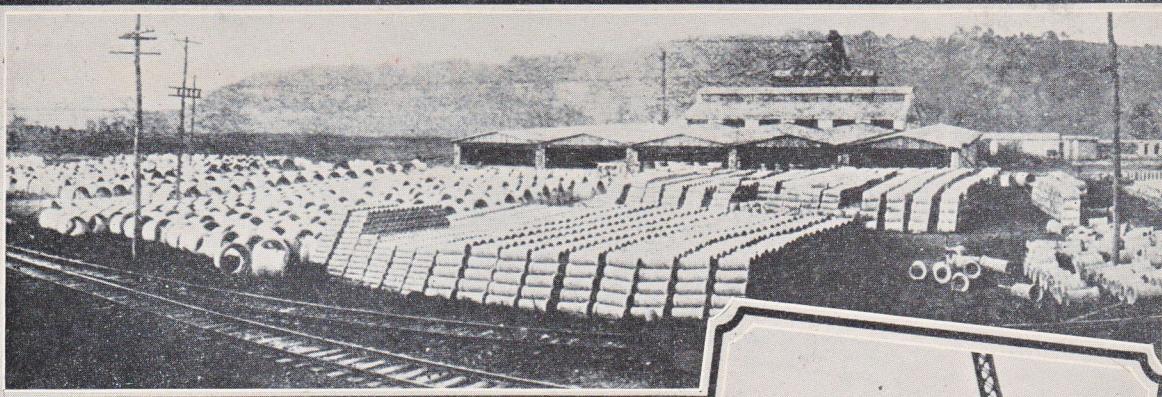


Detroit Uses QUINN Concrete Pipe

For many years this City has been a continuous user of Concrete Pipe and today, hundreds of thousands of feet of Concrete Sewer Pipe are serving the people of Detroit and outlying districts with complete satisfaction.



Showing Quinn Concrete Pipe being delivered to line of ditch in the Detroit territory.

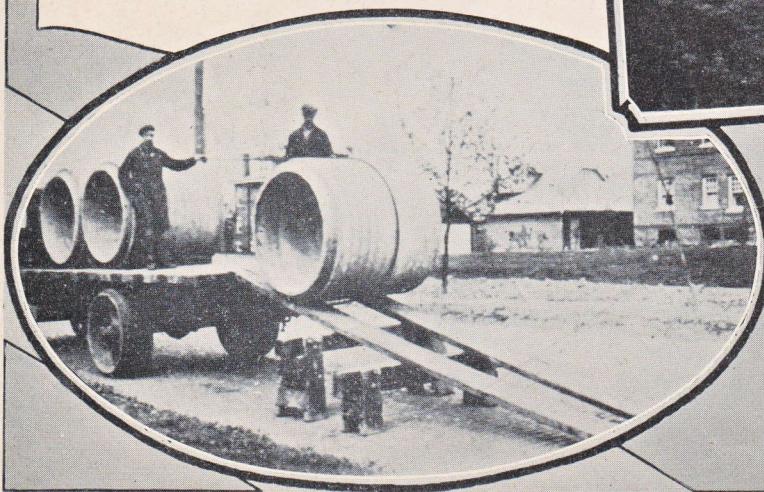
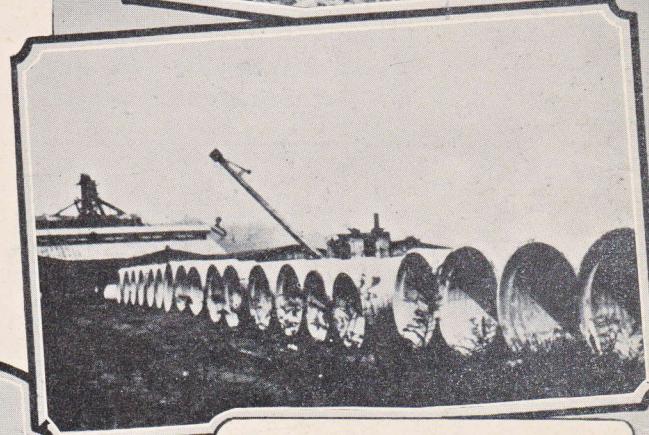


The Union Concrete Pipe Company Huntington, West Va.

The pioneering of high grade concrete pipe in the West Virginia territory was made by this Company. When they decided to enter into the manufacture of concrete pipe they made a thorough investigation into the various processes and for the manufacture of the large sizes of pipe adopted the Quinn process.

This Company has an up-to-date plant at Kenova, W. Va., using materials of their own production which is of the highest grade. The sand and gravel is the very best, giving them the advantage of controlling the quality of their products at all times and used in connection with the processes in production of their pipe products has built up a very wonderful business. They manufacture and sell only high grade pipe that meets the most rigid requirements. This type of pipe has done much to increase the demand in their territory for concrete pipe.

The picture above shows their plant at Kenova, W. Va.



Second picture from above shows 54" Quinn pipe being laid in ditch.

Picture immediately above shows section of storage yards containing large quantities of big Quinn pipe ready to ship.

Bottom picture showing large diameter pipe being loaded on trucks for delivery to ditch.

Quinn Standard Concrete Pipe Forms

In this catalog, you will find complete descriptions and illustrations of all types of Quinn Concrete Pipe Forms, as well as tables giving information on standard dimensions, etc., of various sizes of concrete pipe.

We have tried to make this catalog a complete presentation and reference guide for your information. If any question you have is not answered here, your letter will receive our immediate attention.

QUINN WIRE & IRON WORKS
Boone, Iowa

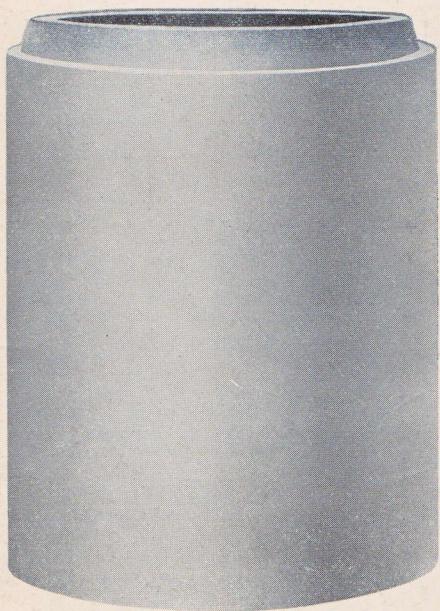
Quinn Precision Machined Forms Make BETTER Pipe

Standard Concrete Pipe

For All Drainage Purposes

To make good concrete pipe, you must have good equipment. Quinn Forms are heavy, rigid, true to shape and produce pipe that will lay properly and fit accurately in the trench or culvert.

All forms are machine planed at joints to produce a practically water-tight joint which prevents washing away of cement. This feature is shown in the excellent quality of "Quinn" Pipe.

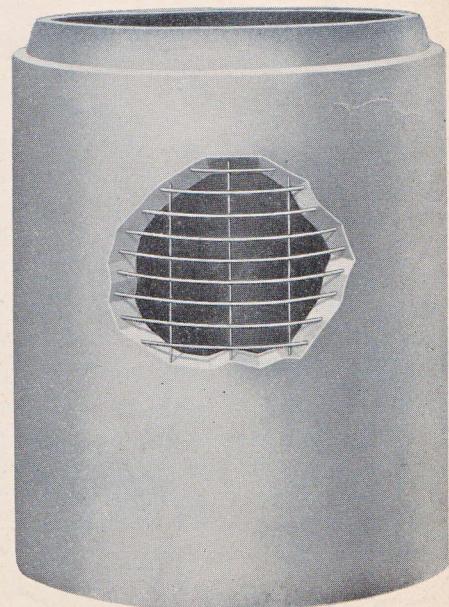


Tongue and Groove Concrete Pipe

At the right is shown a Tongue and Groove Concrete pipe with cutaway section to show wire fabric reinforcement in place.

Quinn Forms for producing a pre-cast concrete pipe are rolled to a true circle. Heavy construction produces a pipe that is round and of uniform wall thickness.

You can't afford cheap, flimsy forms at any price if you want to make good quality concrete pipe and stay in business.



Standard Reinforced Sewer Pipe

The table below shows area of circumferential steel according to standard practice and specifications—also wall thickness—weight and all dimensions of the different sizes of pipe, the size of wire and spacing necessary to obtain the area of steel, together with weight of wire fabric per foot of pipe and cost of wire fabric per foot of pipe and cost of wire per ton of concrete. Also strength requirements, using the three-point bearing test, as outlined in A.S.T.M. specifications C75-35.

TABLE NO. 1—TABLE OF STANDARD DIMENSIONS—SEWER PIPE

PIPE DIMENSIONS								REINFORCEMENT								Strength				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	Min. Load 3 pt. Brg.	
12	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$	3/4	5/8	5/8	3/4	.056	10	8	3x8	1 $\frac{1}{2}$	.04	.05	100	50	1.00	1200	
15	2 $\frac{1}{4}$	2	2	7/8	3/4	3/4	1	.056	10	8	3x8	1 $\frac{1}{2}$	.04	.06	128	64	.94	1370	
18	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	15/16	3/4	3/4	15/16	.056	10	8	3x8	1 $\frac{1}{4}$	.04	.07	168	84	.83	1540	
21	2 $\frac{3}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	1 $\frac{1}{4}$	1	1	1 $\frac{1}{4}$	.06	8	8	4x8	2	.04	.08	216	108	.74	1810	
24	3	2 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$	7/8	1	1-1/8	.06	8	8	4x8	2 $\frac{1}{2}$	.04	.10	268	134	.75	2400	3600
27	3	2 $\frac{1}{2}$	2 $\frac{1}{2}$	1-3/8	1-1/8	1-1/8	1-3/8	.07	7	8	4x8	3	.04	.12	298	149	.80	2550	3800	
30	3 $\frac{1}{2}$	3	3	1-5/16	7/8	1-1/16	1-1/8	.09	7	8	3x8	4	.04	.16	384	192	.84	2700	4050	
33	3 $\frac{3}{4}$	3-3/8	3-3/8	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	.11	6	8	3x8	5	.04	.20	450	225	.89	2850	4300
36	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{1}{2}$	1-3/8	1-5/16	1-9/16		14	7	8	4x8	8	.04	.32	524	262	1.30	3000	4500
42	4 $\frac{1}{2}$	3 $\frac{3}{4}$	3 $\frac{3}{4}$	1-15/16	1-5/8	1-5/8	1-15/16		16	8	8	3x8	10	.04	.40	684	342	1.20	3200	4800
48	5	4 $\frac{1}{4}$	4 $\frac{1}{4}$	2-1/8	1-13/16	1-13/16	2-1/8		21	9	8	2x8	13 $\frac{1}{2}$.04	.54	868	434	1.25	3400	5100
54	5 $\frac{1}{2}$	4 $\frac{3}{4}$	4 $\frac{3}{4}$	2-3/8	1-7/8	2	2 $\frac{1}{2}$		25	8	8	2x8	17	.04	.68	1070	535	1.27	3700	5550
60	6	5	5	2-7/16	2-1/8	2-1/16	2 $\frac{1}{2}$		29	7	8	2x8	22	.04	.88	1290	645	1.38	4000	6000
72	7	6	6	3 $\frac{1}{4}$	2-11/16	2-11/16	3 $\frac{1}{4}$		36	3	8	3x8	31 $\frac{1}{2}$.04	1.26	1800	900	1.40	4500	6750
84	8	7	7	3-5/8	3-1/8	3-1/8	3-5/8		43	2	8	3x8	42	.04	1.68	2400	1200	1.40		

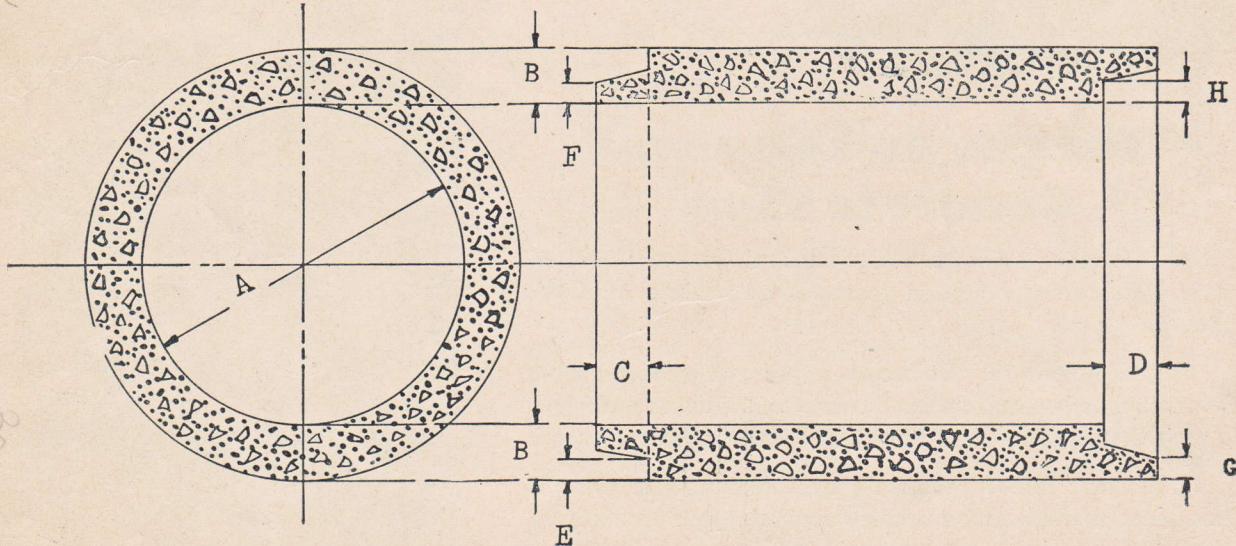
Note: All pipe from 36" and larger in size has two lines of wire reinforcement.

(out)
Explanation of Symbols

A—Size of Pipe
 B—Wall Thickness
 C—Length of Tongue
 D—Depth of Groove
 E—Tongue Offset
 F—Wall Thickness of Tongue
 G—Wall Thickness of Groove

H—Groove Offset
 I—Area Circumferential Steel Single Line
 —per foot of pipe
 J—Area Circumferential Steel Double Line
 —per foot of pipe
 K—Size of Circumferential Wire
 L—Sizes of Longitudinal Wire

M—Mesh Size of Welded Fabric
 N—Weight of Wire Mesh per foot of pipe
 O—Approximate Cost of Wire per pound
 P—Cost of Wire per foot of pipe
 Q—Weights of Pipe per foot
 R—Tons per 1,000 feet
 S—Cost of Wire per Ton of Concrete



The above standard concrete pipe has proved to be the best for sewers and drainage.

Standard Reinforced Culvert Pipe

The table below shows area of circumferential steel according to standard practice and specifications—also wall thickness—weight and all dimensions of the different sizes of pipe, the size of wire and spacing necessary to obtain the area of steel, together with weight of wire fabric per foot of pipe and cost of wire fabric per foot of pipe and cost of wire per ton of concrete. Also strength requirements, using the three-point test, as outlined in A.S.T.M. specifications C76-37.

TABLE NO. 2—TABLE OF STANDARD DIMENSIONS—CULVERT PIPE

PIPE DIMENSIONS							REINFORCEMENT							WEIGHTS			COSTS				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	Min. Load 3 pt. Brg.		
																1st cr.	Ulti.				
M 12	2	2	2	7/8	3/4	3/4	7/8	.07		7	8	4x8	1 $\frac{1}{2}$	.04	.06	100	50	1.20	2250	3500	
M 15	2 $\frac{1}{4}$	2	2	1	3/4	3/4	1	.09		6	8	4x8	2	.04	.08	128	64	1.25	2625	4065	
M 18	2 $\frac{1}{2}$	2	2	1	3/4	3/4	1	.12		4	8	4x8	3	.04	.12	168	84	1.43	3000	4500	
M 24	3	3	3	1-1/4	1	1	1-1/4	.17		6	8	2x8	5	.04	.20	268	134	1.50	3000	5000	
M 30	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	1-1/2	1-1/4	1-1/4	1-1/2	.24	Two-line Total	4	8	2x8	8 $\frac{1}{2}$	.04	.36	384	192	1.83	3375	5750	
M 30	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	1-1/2	1-1/4	1-1/4	1-1/2		Single line ↑	.34	6	8	2x8	12 $\frac{1}{2}$	.04	.50	384	192	2.61	3375	5750
M 36	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	1-3/4	1-1/2	1-1/2	1-3/4			.36	3	8	3x8	16 $\frac{1}{2}$	.04	.66	524	262	2.52	4050	6600
I 42	4 $\frac{1}{2}$	4	4	2-1/8	1-5/8	1-7/8	1-7/8			.42	2	8	3x8	21 $\frac{1}{2}$	.04	.86	684	342	2.52	4725	7350
Q 48	5	4 $\frac{1}{4}$	4 $\frac{1}{4}$	2-1/8	1-13/16	1-13/16	2-1/8			.50	1	8	3x8	29 $\frac{1}{2}$	.04	1.18	868	434	2.72	5400	8000
Q 54	5 $\frac{1}{2}$	4 $\frac{3}{4}$	4 $\frac{3}{4}$	2-3/8	1-7/8	2	2-1/4			.60	2	8	2x8	39	.04	1.56	1070	535	2.92	5850	9000
M 60	6	5	5	2-7/16	2-1/8	2-1/16	2-1/2			.66	2	8	2x8	43 $\frac{1}{2}$	.04	1.74	1290	645	2.70	6000	10000
Q 72	7	6	6	3-1/4	2-11/16	2-11/16	3-1/4			.80	5	8	2x8	69	.04	2.76	1800	900	3.00	6600	12000
Q 84	8	7	7	3-5/8	3-1/8	3-1/8	3-5/8			.92	4	8	2x8	92 $\frac{1}{2}$	.04	3.70	2400	1200	3.09	7000	14000

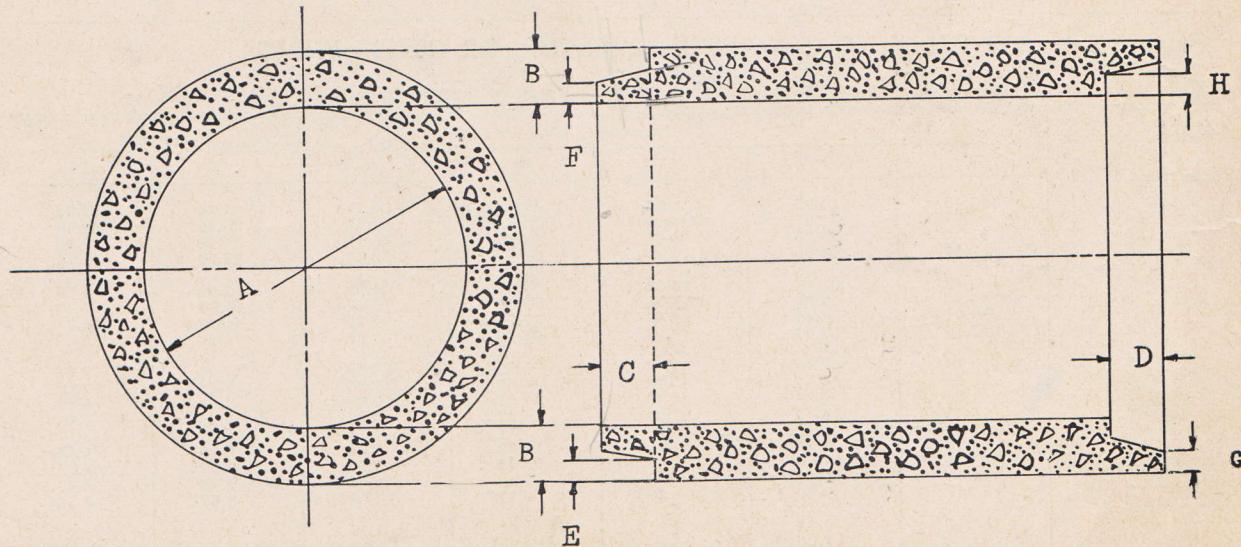
Note: 72" and 84" shows double line totaling .80 and .92 respectively and indicates that two wire cages are placed together to obtain the necessary area of steel as found in a single cage with much heavier wires.

Explanation of Symbols

A—Size of Pipe
B—Wall Thickness
C—Length of Tongue
D—Depth of Groove
E—Tongue Offset
F—Wall Thickness of Tongue
G—Wall Thickness of Groove

H—Groove Offset
I—Area Circumferential Steel Single Line
—per foot of pipe
J—Area Circumferential Steel Double Line
—per foot of pipe
K—Size of Circumferential Wire
L—Sizes of Longitudinal Wire

M—Mesh Size of Welded Fabric
N—Weight of Wire Mesh per foot of pipe
O—Approximate Cost of Wire per pound
P—Cost of Wire per foot of pipe
Q—Weights of Pipe per foot
R—Tons per 1,000 feet
S—Cost of Wire per Ton of Concrete



The above standard concrete pipe has proved to be the best for culverts.

TABLE NO. 3

Table Showing Sectional Areas of Electrically Welded Wire Fabric
Area in Square Inches per Foot of Width for Various Spacing of Wires

American Steel & Wire Company's STEEL WIRE GAUGE NO.	WIRE		CENTER TO CENTER SPACING, IN INCHES											
	Diam. Inches	Area Sq. Ins.	2	3	4	5	6	7	8	9	10	12	14	16
0000	.3938	.12180	.731	.487	.365	...	.244	...	.183	...	...	.122	...	...
000	.3625	.10321	.619	.413	.310	...	.206	...	.155	...	...	.103	...	...
00	.3310	.086049	.516	.344	.258	...	.172	...	.129	...	...	.086	...	...
0	.3065	.073782	.443	.295	.221	.177	.143	.126	.111	.098	.089	.074	.063	.055
1	.2830	.062902	.337	.252	.189	.151	.126	.108	.094	.084	.075	.063	.054	.047
2	.2625	.054119	.325	.216	.162	.130	.108	.093	.081	.072	.065	.054	.046	.041
3	.2437	.046645	.280	.187	.140	.112	.093	.080	.070	.062	.056	.047	.040	.035
4	.2253	.039867	.239	.159	.120	.096	.080	.068	.060	.053	.048	.040	.034	.030
5	.2070	.033654	.202	.135	.101	.081	.067	.058	.050	.045	.040	.034	.029	.025
6	.1920	.028953	.174	.116	.087	.069	.058	.050	.043	.039	.035	.029	.025	.022
7	.1770	.024606	.148	.098	.074	.059	.049	.042	.037	.033	.030	.025	.021	.018
8	.1620	.020612	.124	.082	.062	.049	.041	.035	.031	.027	.025	.021	.018	.015
9	.1483	.017273	.104	.069	.052	.041	.035	.030	.026	.023	.021	.017	.015	.013
10	.1350	.014314	.086	.057	.043	.034	.029	.025	.021	.019	.017	.014	.012	.011
11	.1205	.011404	.068	.046	.034	.027	.023	.020	.017	.015	.014	.011	.010	.009
12	.1055	.0087417	.052	.035	.026	.021	.017	.015	.013	.012	.010	.009	.007	.007
13	.0915	.0065755	.039	.026	.020	.016	.013	.011	.010	.009	.008	.007	.006	.005
14	.0800	.0050266	.030	.020	.015	.012	.010	.009	.008	.007	.006	.005	.004	.004

Tables for Estimating Weight of Electrically Welded Wire Fabric

TABLE NO. 4—LONGITUDINAL WIRES

Weights per 100 square feet Assuming Net Width of 60 inches Center to Center of Outside Wires

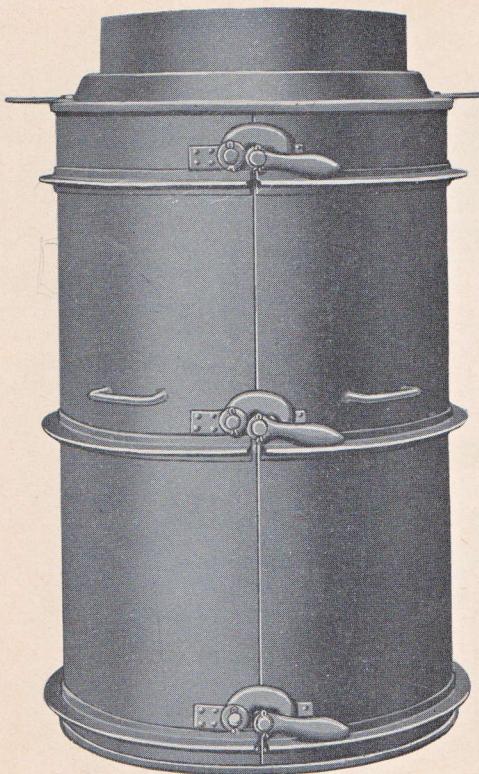
American Steel & Wire Company's Steel Wire Gauge No.	Spacing of Longitudinals, in Inches					
	2	3	4	6	8	12
0000	256.43	173.71	132.35	90.99	69.80	49.63
000	217.31	147.21	112.16	77.11	59.14	42.06
00	181.16	122.72	93.54	64.28	49.31	35.06
0	155.37	105.25	80.19	55.13	42.29	30.07
1	132.43	89.71	68.35	46.99	36.05	25.63
2	113.96	77.20	58.82	40.44	31.02	22.06
3	98.21	66.53	50.69	34.85	26.73	19.01
4	83.95	56.87	43.33	29.79	22.85	16.25
5	70.87	48.01	36.58	25.15	19.29	13.72
6	60.96	41.29	31.46	21.63	16.59	11.80
7	51.81	35.10	26.74	18.38	14.10	10.03
8	43.40	29.40	22.40	15.40	11.81	8.40
9	36.37	24.64	18.77	12.91	9.90	7.04
10	30.14	20.42	15.56	10.69	8.20	5.83
11	24.01	16.27	12.39	8.52	6.54	4.65
12	18.41	12.47	9.50	6.53	5.01	3.56
13	13.84	9.38	7.15	4.91	3.77	2.68
14	10.58	7.17	5.46	3.76	2.88	2.05

TABLE NO. 5—CIRCUMFERENTIAL OR CROSS WIRES

Weights per 100 square feet Assuming Net Width of 60 inches Center to Center of Outside Wires

American Steel & Wire Company's Steel Wire Gauge No.	Spacing of Cross Wire, in Inches					
	2	3	4	6	8	12
0000	256.43	170.95	128.22	85.48	64.11	42.74
000	217.31	144.87	108.66	72.44	54.33	36.22
00	181.16	120.78	90.58	60.39	45.29	30.19
0	155.37	103.58	77.69	51.79	38.84	25.90
1	132.43	88.29	66.22	44.14	33.11	22.07
2	113.96	75.97	56.99	37.99	28.49	18.99
3	98.21	65.47	49.10	32.74	24.55	16.37
4	83.95	55.97	41.97	27.98	20.99	13.99
5	70.87	47.24	35.43	23.62	17.72	11.81
6	60.96	40.64	30.48	20.32	15.24	10.16
7	51.81	34.54	25.90	17.27	12.95	8.63
8	43.40	28.93	21.70	14.47	10.85	7.23
9	36.37	24.25	18.18	12.12	9.09	6.06
10	30.14	20.09	15.07	10.05	7.53	5.02
11	24.01	16.01	12.01	8.00	6.00	4.00
12	18.41	12.27	9.20	6.14	4.60	3.07
13	13.84	9.23	6.92	4.61	3.46	2.31
14	10.58	7.06	5.29	3.53	2.65	1.76

Heavy Duty Concrete Pipe Forms



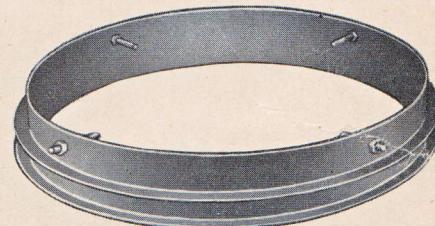
At the left is shown Quinn Form assembled complete with jacket, core, tongue forming header and groove forming pallet.

The jacket is made of $\frac{1}{4}$ " steel plate, reinforced with tee iron, electrically welded in place, assuring a strong rigid unit. The core is made of No. 10 gauge steel for sizes up to 15" and $\frac{3}{16}$ " for all other sizes.

Malleable jacket locks enable the operator to draw the jackets tightly together, which practically eliminates bleeding. Each lock is provided with an adjusting screw to take up wear.

Tongue forming headers are furnished in the open type for filling through the top or the closed type for working back and forth on top of the concrete until the header rests on the jacket.

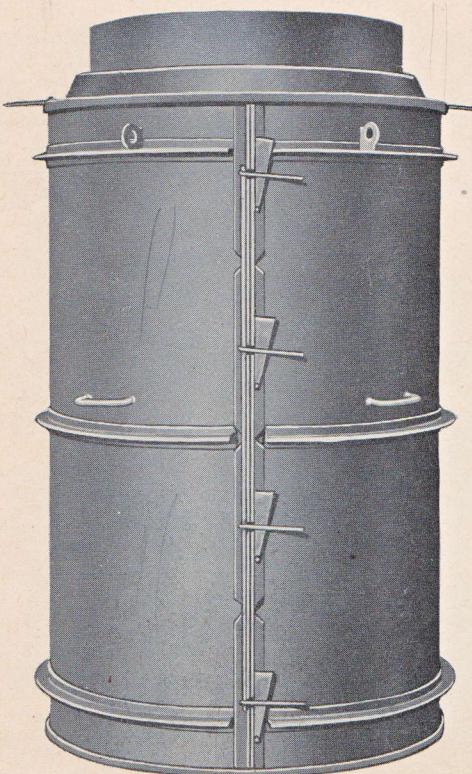
The base-type pallet shown supports and holds the core and jacket so pipe can be made along the ditch. When a concrete floor is available plain pallets are suitable.



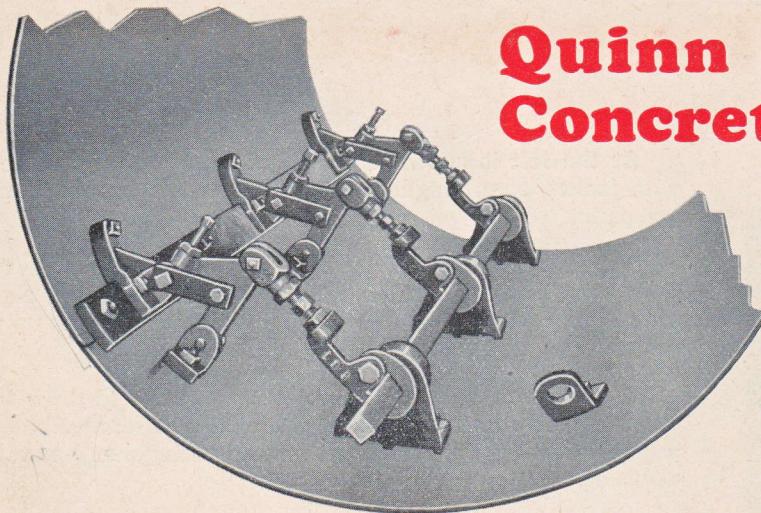
HOPPER—With channel reinforcement fits inside of the jacket. It aids in placing the concrete in the form and the adjustable spacer rods insure a uniform wall thickness by keeping the core centered within the jacket.



SHOVELING PLATE—Rests on top of the core to receive the concrete for final distribution into the form and to protect the inside of the core. The plate is made from steel reinforced with channel iron arc welded in place.



At the left is a Quinn Heavy Duty Pipe Form equipped with wedge-type jacket locks. While many operators use the adjustable jacket lock type as shown above, some prefer the wedge lock type when the concrete is settled with a vibrator. The upright angle strips are electrically welded in place as are the circumferential bands. One of the upright channel strips overlaps the joint, insuring against bleeding of the concrete at this point.

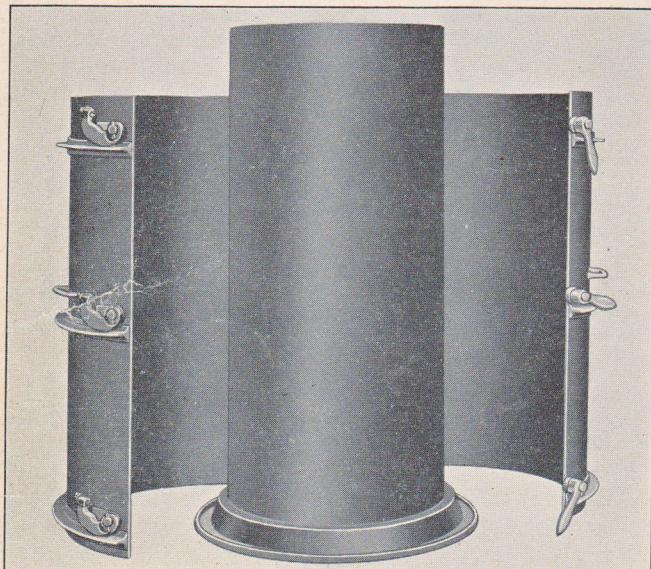


Quinn Heavy Duty Concrete Pipe Forms

CORE—At the left is shown a sectional view of our latest type butt-joint core. The core is made in one piece, rolled to a true circle. The two edges are bevelled and when drawn together makes a smooth exterior surface on the core and a smooth interior surface on the inside of the pipe. Note the unique collapsing feature which is positive in action—holding the two edges together securely. One turn of a hand socket wrench collapses the core for removal and the reverse turn expands it back to operating position.

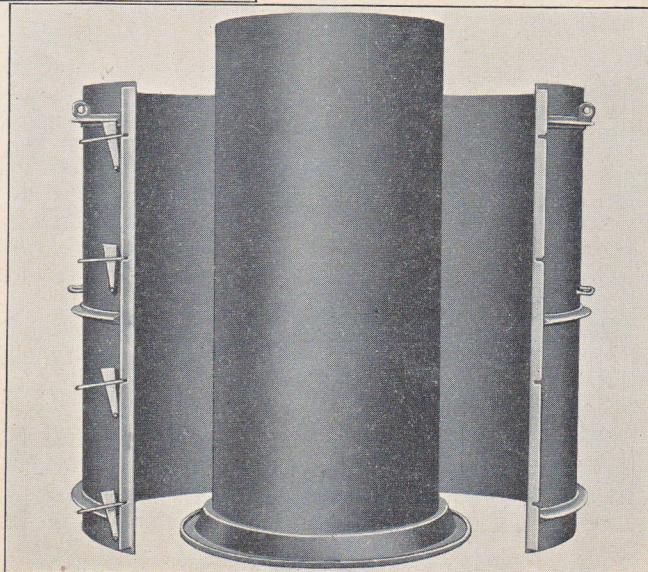
No other core has ever been designed that compares with this type of pipe form core. Fully guaranteed.

Open Views of Jacket and Core



At the left is shown the Quinn Heavy Duty Standard Pipe Form with Adjustable Locks. Jacket is opened with the two halves ready to be assembled. The core is shown resting on the pallet in an operating position.

At the right is shown the Quinn Heavy Duty Standard Pipe Form with Wedge Locks. Note the sturdy pallet on which the jacket rests and the beaded rim which holds the jacket in place.



Quinn Heavy Duty Form Specifications

JACKETS—The jackets are made in two sections of $\frac{1}{4}$ " steel plate—reinforced with tee iron—rolled to a true circle—the joints are planed, allowing the two sections to butt together perfectly, forming a practically water tight joint, eliminating any possibility of the concrete bleeding at the joints, causing loss of cement, leaving a sandy appearance at these joints.

The handle fixtures are made of malleable iron or cast steel throughout, the handle trunnions being securely riveted in place.

CORE—The core is made in one piece and rolled to a true circle—sizes up to 15" are made of No. 10 gauge iron; all other sizes of $\frac{3}{16}$ " gauge steel plate—the joints are bevelled to form a smooth butt joint when the core is in an operating position.

The collapsing device is made of steel, cast and malleable iron. The sectional view on page 12 gives an idea as to the way it operates. It is simple in construction and effectual in operation. It is also adjustable, allowing take-up for wear. One full turn of a hand wrench opens or closes the core. This core device is without doubt the best ever used on a collapsible core.

The Quinn jackets and cores are certainly a great labor saver in setting up for filling with concrete and removal of the Forms after the concrete has set. It takes only a minute or so to loosen the jacket hooks and collapse the core for removal of the Forms forward to the next setup. Considerable saving in labor is experienced in a few months with the Quinn Forms, simply through the quick setup and removal of the Forms when pipe is being made; not to mention the great expense saved by reason of the Forms holding their shape and trueness.

The wet or hand process requires, of course,

several Forms of each size in order to make a given number feet of pipe per day as the Forms must remain in place several hours after the concrete has been worked into same. Should the weather be mild and warm the Forms may be filled twice each day.

PALLETS—These are made of fine grey iron—true to shape and ground to fit the core and jacket. They can be furnished two ways—plain pallet to fit inside the Forms and resting on a wood pallet or concrete floor; or base pallet in which the jacket and core rests directly on same, thus forming its own base. For work outside near the job where the pipe is to be used, the latter type works out very nicely as it will not be necessary to have any other pallet as the base pallet forms its own foundation.

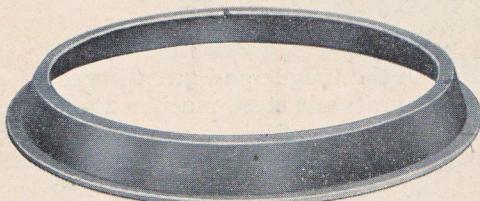
It will take three times as many pallets for each Form used, as the pipe should remain on the pallet at least two days before tipping the pipe over for the removal of the pallet.

HEADERS—These are made of grey cast iron and are known as tongue forming headers. These are furnished either closed or open. The open type allows the concrete to be worked into same at the top when the header is placed in position and the concrete troweled smooth when filled. Sizes from 30" and up are recommended open type. When closed type is used, a stiff mix is recommended, same being troweled to a peak against the core; the header is placed on top and worked back and forth until the header casting comes to rest on top of jacket. This is quite common practice and makes a nice tongue for sizes 10" to 27". Open headers, however, may be used on all sizes, if desired.

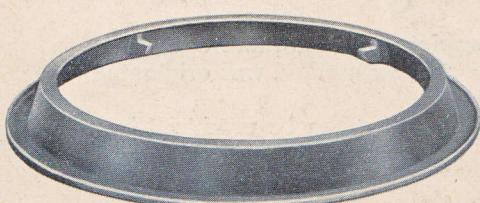
Number of headers—one for each form used. When concrete has set, the header is removed when the form is removed.

QUINN PALLETS

Made of Fine Grey Iron and Ground to Fit Forms

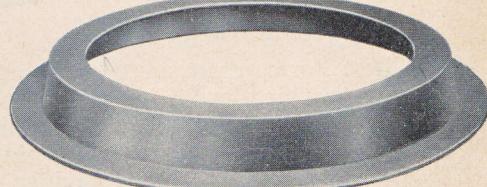


This is Plain Groove Pallet and is used where pipe is made on cement floor at plant. The pallet fits inside of mold.



Where pipe is made along line of ditch this pallet is recommended as the mold rests directly on the pallet, the pallet acting as a base for the mold.

The Plain Type Bell End Pallet used in plants with a concrete floor to place the form and pallet on while the concrete is being rammed in place. Pallet fits inside the mold.

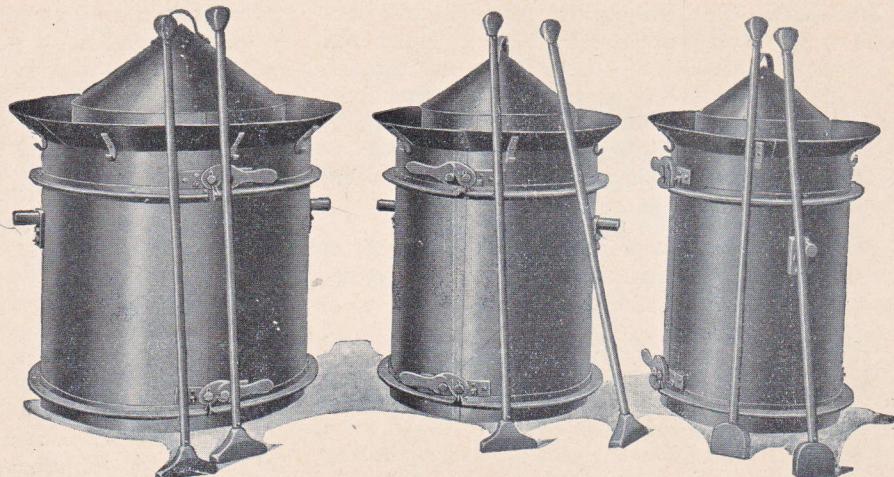


This pallet shows the projections to engage and hold the inside form, also rim to hold outside jacket. The mold rests on the pallet used when pipe is made along line of ditch. Pallet acts as base for mold to rest on, also forms the bell of pipe.

Quinn Heavy Duty Hand Forms

FOR SEMI-DRY MIX

At right is shown a set of Quinn Hand Forms for making concrete pipe using a semi-dry mix and tamping the concrete in place. The Forms can be removed at once as the mixture has just enough water to hydrate the cement, which allows the concrete to be packed into the Form by tamping.

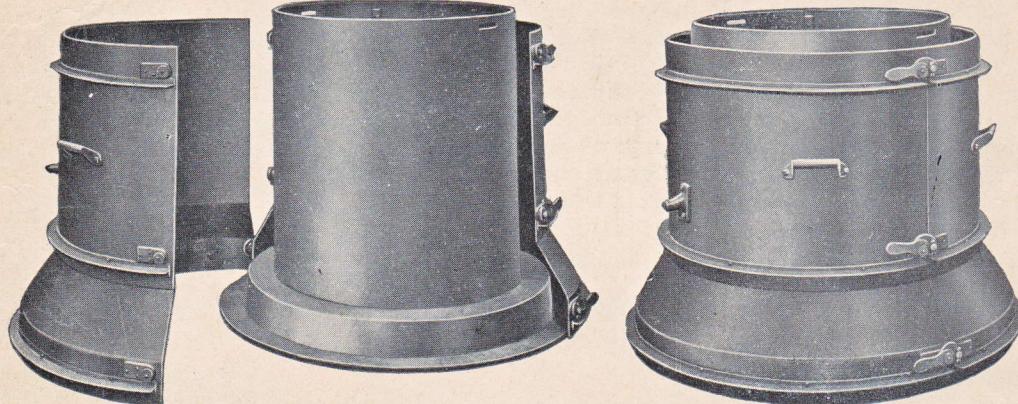


These Forms can be furnished for straight end or tongue and groove pipe, in lengths of 24", 30" and 36" and in all sizes from 10" up to 36" in diameter. Larger sizes are recommended in 4' lengths, using the wet or poured process.

These Forms can be furnished for straight end pipe known as drain tile, in any wall thickness specified. The tongue and groove however is limited to a wall thickness as follows:

Size	12 in.	15 in.	18 in.	24 in.	30 in.	36 in.
Wall	1½ in.	1¾ in.	2 in.	2½ in.	3 in.	3½ in.
Wall	2 in.	2¼ in.	2½ in.	3 in.	3½ in.	4 in.

Quinn Heavy Duty Bell End Forms



These Forms are made of the same heavy construction as found in the tongue and groove type, the same specifications being used as to material. The bell part is made of plate steel, machined and welded to the straight part of the Form.

The core is also made the same, in one piece of heavy material, having a bevelled butt-joint.

In order to insure a true circular shape bell with uniform wall, the Quinn Forms are made with bell down, using a pallet the same as on the tongue and groove type. This method gives wonderful results, making a very fine pipe of uniform quality. For road culvert and sewer work, using the wet mix, this method has no equal when making pipe by hand.

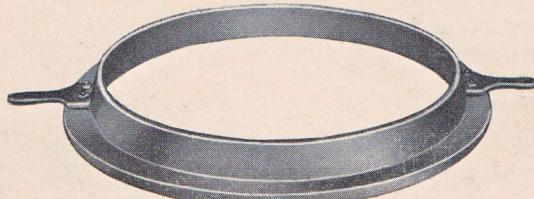
The Forms, when assembled around the pallet, become a complete unit, no more equipment to handle and the Forms can be filled quickly at much saving in labor. This method was originated by us and has proven most successful during the many years in use.

A very wonderful looking pipe, true in shape and uniform in quality, can be produced by this method with Quinn equipment.

Furnished in sizes 12" to 48" in diameter in various lengths.

Quinn Medium Duty Pipe Forms

Views on this page show complete assembly of Quinn Forms together with its several parts.



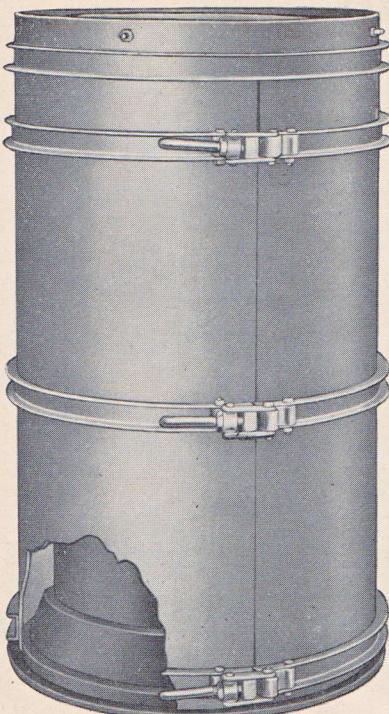
OPEN TYPE HEADER

Fits over jacket to form tongue.



SHOVELING PLATE

With cut-away showing the channel re-inforcing, fits inside of core. Core remains true.



CONCRETE SPADER

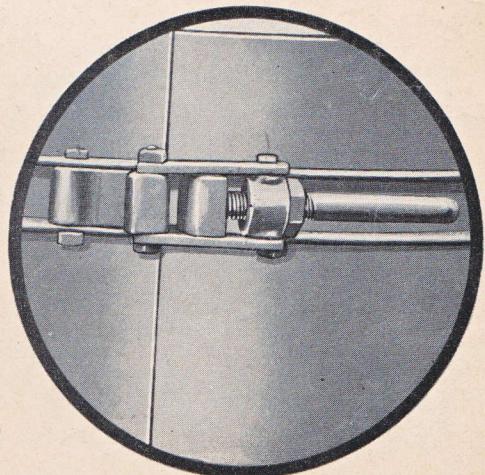
For working concrete into forms to eliminate air pockets, leaving smooth surface in pipe.

Quinn Forms are made to fit perfectly, every part being carefully finished for perfect assembly.



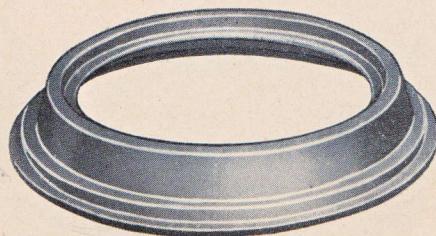
HOPPER

With channel re-inforcement. Fits inside of jacket — holds same true. Equipment with spacer rods. Holds core and jacket central. Insures uniform wall.



JACKET LOCK

Enlarged sectional view of adjustable jacket lock.



BASE PALLET

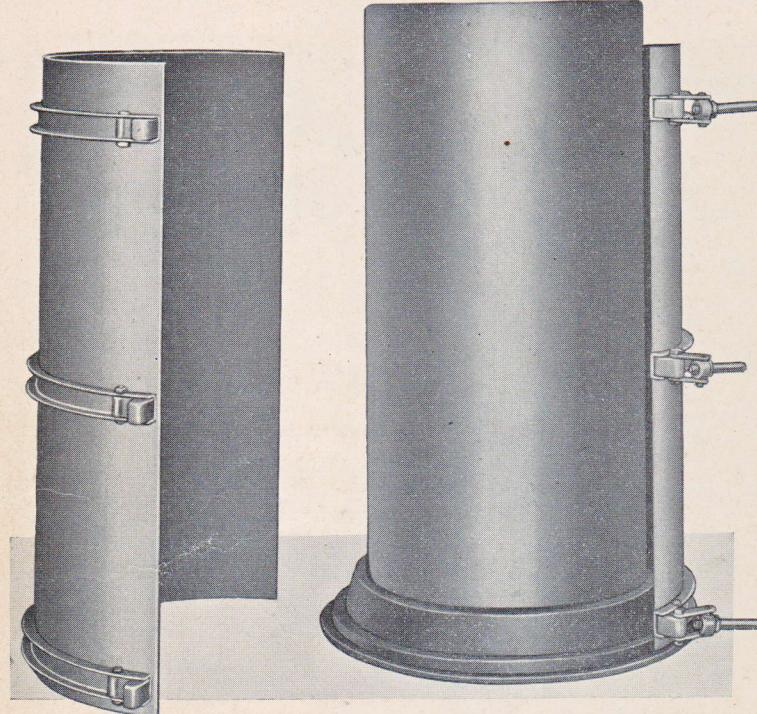
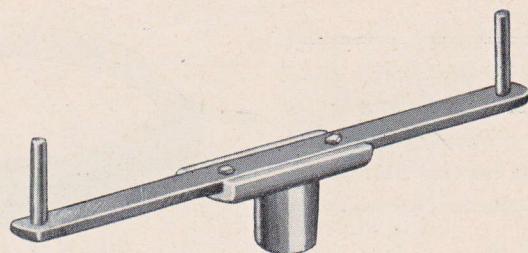
Cast Iron base pallet to form groove, with offset to hold jacket and core true.



Quinn Medium Duty Pipe Forms

Hand Socket Wrench

For collapsing the core. One full turn of the wrench reduces the diameter of the core sufficiently for removal of the same.



Quinn Core and Jacket

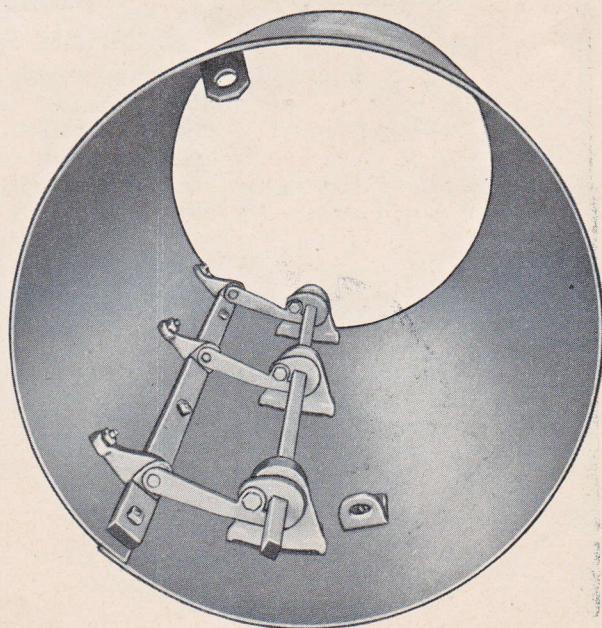
At left the form and pallet, with one section of the jacket to one side. Note the simplicity of lock release and form removal. Jacket fits tight against pallet, which eliminates bleeding of concrete and at the same time keeps the jacket true and round.

Quinn Forms are easily set up for filling and removal after concrete has set.

The QUINN Core

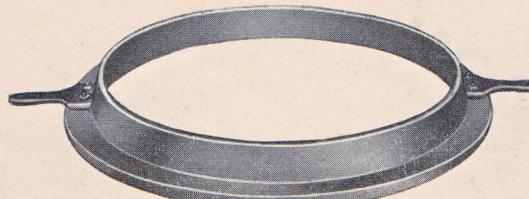
Showing lap joint and collapsible feature. This device is most unique with nothing to get out of order.

The core is made in one piece of No. 12 gauge steel, rolled to a true circle with a short lap joint. Each core is equipped with a very unique collapsing device—one full turn of a hand socket wrench reduces the diameter of the core for easy removal.



Quinn Medium Duty Pipe Forms

Views on this page show complete assembly of Quinn Forms together with its several parts.

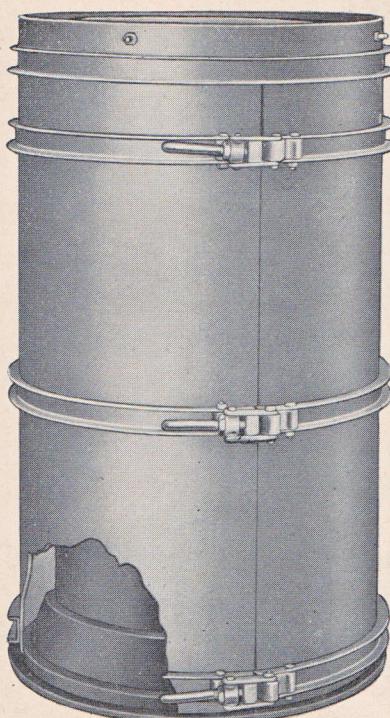
**OPEN TYPE HEADER**

Fits over jacket to form tongue.

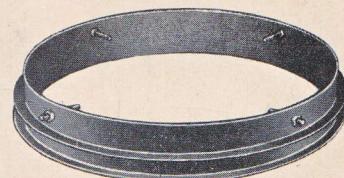
**SHOVELING PLATE**

With cut-away showing the channel re-inforcing, fits inside of core. Core remains true.

Quinn Forms are made to fit perfectly, every part being carefully finished for perfect assembly.

**COMPLETE FORM**

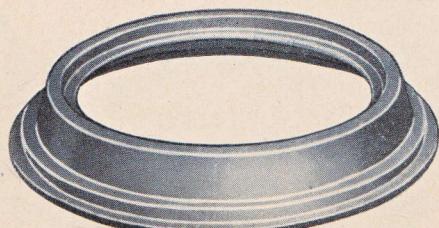
Form assembled with cut-away at bottom, showing pallet with jacket resting on same and closed against the pallet.

**HOPPER**

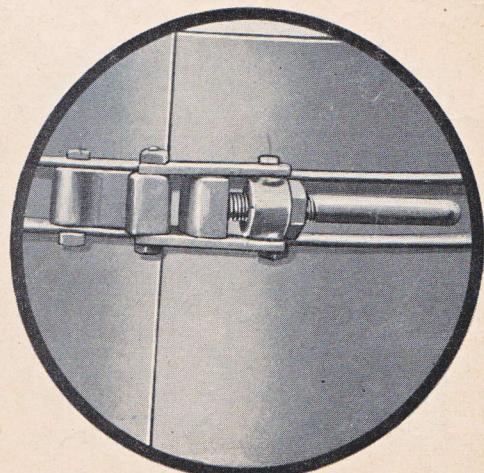
With channel re-inforcement. Fits inside of jacket — holds same true. Equipment with spacer rods. Holds core and jacket central. Insures uniform wall.

CONCRETE SPADER

For working concrete into forms to eliminate air pockets, leaving smooth surface in pipe.

**BASE PALLET**

Cast Iron base pallet to form groove, with offset to hold jacket and core true.

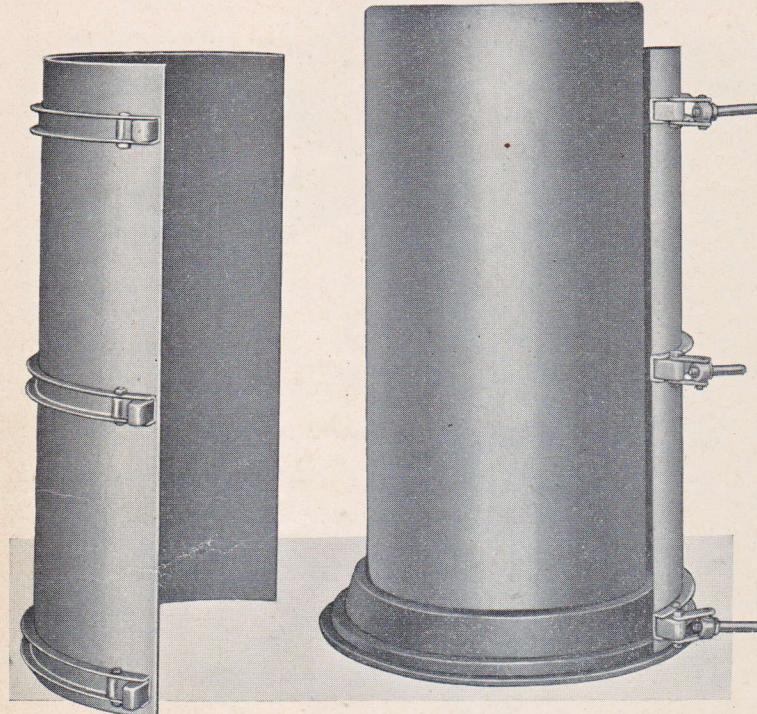
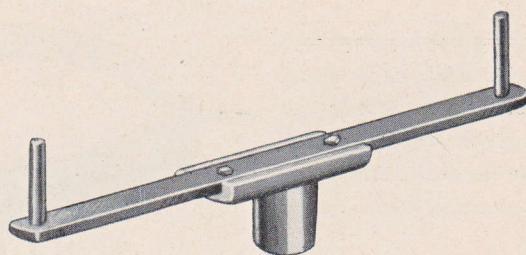
**JACKET LOCK**

Enlarged sectional view of adjustable jacket lock.

Quinn Medium Duty Pipe Forms

Hand Socket Wrench

For collapsing the core. One full turn of the wrench reduces the diameter of the core sufficiently for removal of the same.



Quinn Core and Jacket

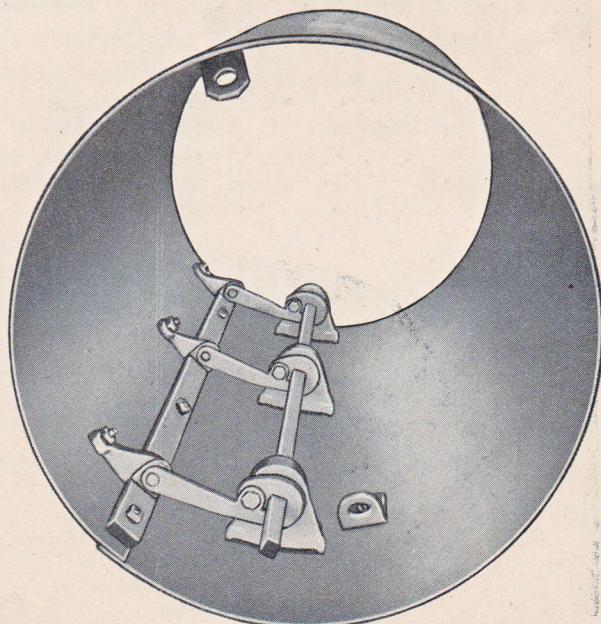
At left the form and pallet, with one section of the jacket to one side. Note the simplicity of lock release and form removal. Jacket fits tight against pallet, which eliminates bleeding of concrete and at the same time keeps the jacket true and round.

Quinn Forms are easily set up for filling and removal after concrete has set.

The QUINN Core

Showing lap joint and collapsible feature. This device is most unique with nothing to get out of order.

The core is made in one piece of No. 12 gauge steel, rolled to a true circle with a short lap joint. Each core is equipped with a very unique collapsing device—one full turn of a hand socket wrench reduces the diameter of the core for easy removal.



Quinn Medium Duty Pipe Forms

We are offering the Quinn Medium-Duty Forms to meet a demand for an output of smaller quantities of concrete pipe and at the same time be rigid enough to stand up and produce a good grade of pipe.

We have always advocated heavy construction for concrete pipe equipment where years of continuous service was required, but we have found there is a need for a form that will take care of the smaller operators and to meet this need, we decided to place on the market, a form that is really better than requirements might demand. Our experience over a period of many years in making concrete pipe equipment has taught us that it does not pay to make and sell light flimsy equipment, so in designing the Quinn Medium-Duty Pipe Form, we decided to make it strong and rigid, yet of light construction, and offer the same to the user who was not a continuous operator.

To this end we feel that we are offering to our customers an article that will give them good service and produce a high grade pipe. We discarded the idea at the start, of using material that was flimsy of weight, even though the cost of the forms would be less and decided to use a medium weight iron and enable us to furnish a good substantial form.

The Quinn Medium-Duty Form is offered with the assurance it will give excellent service and satisfy the user.

SPECIFICATIONS

The following specifications covers the construction and material used in producing Quinn Medium-Duty Pipe Forms:

JACKET—The jacket or outside is made of No. 10 gauge steel; each section is rolled to a true half-circle, after which each half is reinforced with 2 in. x 1 in. x $\frac{3}{16}$ in. channel iron. The jackets are equipped with a very fine adjustable locking device and complete in every detail.

CORE—The core is made in one piece of No. 12 gauge steel, rolled to a true circle with a short lap joint. Each core is equipped with a very unique collapsing device—one full turn of a hand socket wrench reduces the diameter of the core for easy removal.

SHOVELING PLATE—This is made of No. 12 gauge iron, reinforced on the bottom with channel iron; the channel iron being rolled to the same diameter as the inside of the core. When the shoveling plate is placed in position on top of the core, it keeps the core to a true circle in addition to serving as a retainer for the concrete.

HOPPER—This is made of No. 12 gauge iron, rolled to a true circle and reinforced with channel iron. The channel iron also serves as a stop, same resting on top of the jacket and holding the hopper in correct position. Each hopper is equipped with adjustable spacing rods extending in and contacting the outside of the core. These spacer rods keep the jacket and core central, insuring an exact wall thickness of pipe.

PALLET—The pallet for making the groove of the pipe is made of a fine grey iron cast, ground to fit the jacket and core. The offset at the bottom allows the jacket to fit around the pallet casting, keeping the jacket in a true circular position at all times. An offset is also provided on the inside of the pallet on which the core rests; this keeps the core round and true. The pallet casting thus serves as a base, as the core and jacket rest on same and it is not necessary to have anything further to support the pallet casting.

HEADERS—These are made of grey cast iron and are known as tongue forming headers. These are furnished either closed or open. The open type allows the concrete to be worked into same at the top when the header is placed in position and the concrete troweled smooth when filled. Sizes from 30" and up are recommended open type. When closed type is used, a stiff mix is recommended, same being troweled to a peak against the core; the header is placed on top and worked back and forth until the header casting comes to rest on top of jacket. This is quite common practice and makes a nice tongue for sizes 10" to 27". Open headers, however, may be used on all sizes, if desired.

Number of headers— one for each form used. When concrete has set, the header is removed when the form is removed.

SPADER—The spader is made of flat mild steel and light weight pipe for the handle. Two of these are generally used in making ordinary sizes of pipe. Two operators, one on each side of the form, working the spaders sideways in the concrete will eliminate much of the air and leave the surface of the pipe free from air pockets.

The above specifications are a guarantee that the Quinn Medium-Dry Forms are made right and will give service for a long time.

These Forms are offered to the user, backed by our experience over a period of over thirty years in the manufacture and sale of Concrete Pipe Equipment.

Precast Concrete Pipe Process

The Wet Process for making concrete pipe is the method generally used for the production of pipe where wire reinforcement is used.

Culvert pipe is almost always reinforced in all sizes, while sewer pipe are reinforced in the larger sizes only, although we recommend all sizes of sewer pipe be reinforced, if made by the Wet Process method.

WIRE REINFORCEMENT

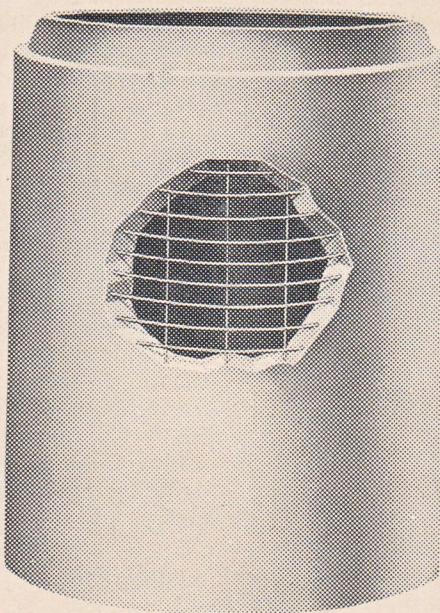
—Specifications for the area of steel to be used in pipe seems to vary in some states and municipalities, although it is becoming standardized more and more. In the absence of specifications for steel required, we recommend the specifications of the American Society for Testing Materials found in this catalog in Table 1, Page 8 for sewer pipe and Table 2, Page 9, for culvert pipe.

We recommend rectangular mesh fabric, which can be purchased from almost any manufacturer of wire. The wire will be shipped to you in rolls and when ordering specify the length of pipe to be made and area or steel required, or use sizes in Table 2, Page 9 of the catalog for culvert pipe and Table 1, Page 8 for sewer pipe.

PRODUCTION OF PIPE—The production of reinforced concrete pipe by the wet process method requires a battery of several forms of each size for the reason the forms are left in place until the concrete is set sufficiently for the removal of the forms without damage to the pipe.

The removal of the forms depends on the weather; general practice calls for filling the forms one day and removing the first thing the next day. In case weather is warm, the forms may be removed in five to six hours and refilled the same day. Experience will determine however just how soon the forms may be removed.

LENGTH OF PIPE—Custom in various sections of the country seems to have established certain lengths of pipe, but the standard length of both culvert and sewer pipe is 4 foot. Some states however use lengths of 6 foot for culvert pipe.



EQUIPMENT REQUIRED—

The number of forms required depends on the number of feet of a given size of pipe desired each day. Each form will produce 4 feet per day, or weather permitting 8 feet each day. Ordinarily several sizes are required, in which event a battery of each size form should be used. Some sizes of pipe are used in greater quantities than others, in which case more forms of that size are used. You figure out the footage per day of any given size covering production needed. For instance your requirements may be a quantity of 18" pipe; the suggested set-up of equipment would be as follows:

QUINN CONCRETE PIPE FORMS— TONGUE AND GROOVE TYPE

18" Diameter—4 feet length

5	only	18 x 2½" wall Forms
1	"	18" Shoveling Plate
1	"	18" Hopper
15	"	18" Pallets
5	"	18" Headers

By referring to the price list you will find cost of each part of the 18" equipment, as well as all other sizes.

You will note we have figured 15 pallets, being three times as many as forms used. As the pipe should remain on the pallet until well cured before tipping over, the extra pallets are suggested.

One shoveling plate and one hopper for each size is enough to take care of the five forms, as these can be moved forward to the next form as they are filled.

One header for each form is sufficient as these can be removed at the same time as the forms are taken away from the pipe.

Bell end pipe works out the same way, requiring the same number of pallets, but no headers, as the top of the pipe can simply be troweled smooth with a common hand trowel.

Making Hand Tamped Concrete Pipe

Using the Semi-Dry Mix and Removing Forms at Once...

The Semi-Dry Process of making concrete pipe is common practice when the machine method is employed, as the machine method packs the material into a hard dense mass, allowing the forms to be removed at once. Power machines are used however when the demand for pipe is such that large production is necessary.

There are hundreds of cases however where small production is required, in which event the concrete can be tamped into the forms by hand and the forms removed immediately.

However, the hand process using the semi-dry mix is used mostly for making plain or unreinforced pipe, it being quite difficult to tamp the concrete around the reinforcement if same is used. However on sizes up to 36" diameter, where a single line of reinforcement is used and the wire cage is rolled true to shape, it is possible to produce a good reinforced pipe.

Where a plain or unreinforced pipe is to be made, we recommend the length of the pipe be not over three feet, as longer lengths are a little difficult to handle, not only in tamping the concrete into the forms, but in the removal of the core. All lengths from three feet and under work satisfactorily with no trouble whatsoever.

When ordering equipment for hand tamped pipe using the semi-dry mix the following set-up is given as an example for a given size:

QUINN CONCRETE PIPE FORMS— TONGUE AND GROOVE TYPE

18" Diameter — 3 feet length

1 only 18x2 $\frac{1}{2}$ " wall Form	1 only 18" Headers
1 " 18" Cone or Shoveling Plate	2 " 18" Tampers
1 only 18" Hopper	
20 " 18" Pallets	

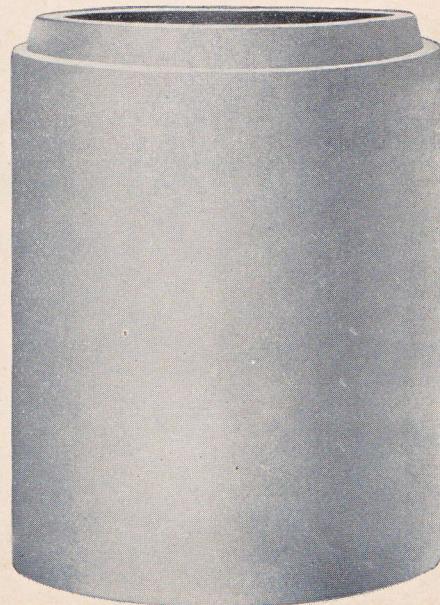
By referring to the price list you will find cost of each part of the 18" equipment, as well as all other sizes.

The above is a common set-up for a production of about fifteen pieces of pipe each day, leaving five pallets to start in with the next day. Weather permitting, the pipe made the morning before may be tipped over and the pallets removed; the last pipe made the day before being tipped over last.

We simply have suggested a common set-up and if desired less pallets can be used, providing continuous production of a given size is not necessary.

The Tongue Header is removed as soon as the core of the form has been collapsed and taken out of the pipe; therefore requiring only one Tongue Header for each form.

In making bell end pipe using the semi-dry method, the pipe will be made bell up, while with the wet or poured process method, the pipe is made bell down.



Start with our 30 Years of Experience to Guide You

IN THE FIELD of equipment for making Concrete Pipe, Quinn Forms and accessories represent the combined development of more than 40 years of manufacturing experience, and over thirty years of constant improvement in Concrete Pipe forms.

The final test of any equipment or machinery is the service it renders in the hands of the user. Quinn Concrete Pipe Forms have met this test. Year after year, under all conditions, they have proved satisfactory to hundreds of users in all parts of the world.

Before you buy Concrete Pipe Forms, it will pay you to investigate the advantages offered by the features of Quinn Forms.

We believe that you will agree with other users that Quinn Forms possess Outstanding Merit.

QUINN WIRE & IRON WORKS

Boone • Iowa



Table Showing Comparative Capacities of Corrugated Iron Pipe Culverts and Concrete Pipe Culverts

Capacities in Cubic Feet per Second for Culverts Flowing Full, with One Foot Difference in Water Level at Entrance and Discharge Ends of Culvert.

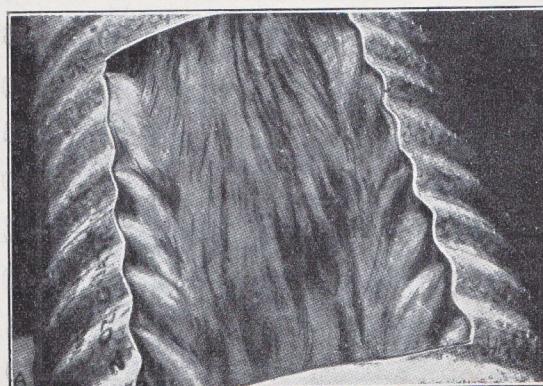
DIAMETER IN INCHES	CULVERT LENGTH 30.6 Ft.			CULVERT LENGTH 50 Ft.			CULVERT LENGTH 100 Ft.		
	Corrugated Metal Pipe Culvert	Concrete Pipe Culvert	Capacity Increase, Per Cent	Corrugated Metal Pipe Culvert	Concrete Pipe Culvert	Capacity Increase, Per Cent	Corrugated Metal Pipe Culvert	Concrete Pipe Culvert	Capacity Increase, Per Cent
12"	3.10	4.40	42.0	2.5	3.9	56.0	1.84	3.19	73.3
15"	5.19	7.01	35.0	4.3	6.4	48.8	3.23	5.39	66.8
18"	7.91	10.3	30.2	6.7	9.6	43.2	5.10	8.21	60.9
21"	11.3	14.2	25.7	9.7	13.4	38.1	7.49	11.6	54.8
24"	15.4	18.7	21.4	13.4	17.8	32.8	10.4	15.7	50.9
30"	25.7	29.9	16.3	22.6	28.4	25.6	18.0	25.6	42.2
36"	39.2	43.7	11.5	34.3	41.3	20.4	27.8	37.9	36.3

Capacities on 30.6 ft. and 100 ft. culverts taken from University of Iowa Bulletin 1, new series No. 103

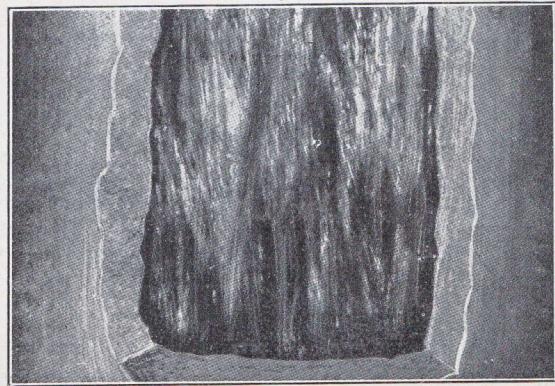
Capacities on 50 ft. culvert calculated from formulae developed in above bulletin.

In the table showing capacities for 50-foot culverts, note that one 15-inch concrete pipe culvert is practically equal to one 12-inch plus one 15-inch corrugated metal pipe culvert. Also, the capacity of a 15-inch concrete pipe is only slightly less than that of an 18-inch corrugated metal pipe culvert. Further, a 24-inch corrugated metal pipe could be replaced by a 21-inch con-

crete pipe culvert without loss of capacity. Notice how the length of the culvert affects the capacities. The capacity of a 12-inch culvert 30.6 feet long is increased by 42% when a corrugated metal pipe is replaced by concrete pipe; if the length is extended to 50 feet the increase in capacity becomes 56%, and for a 100-foot culvert the increase is 73.3%.

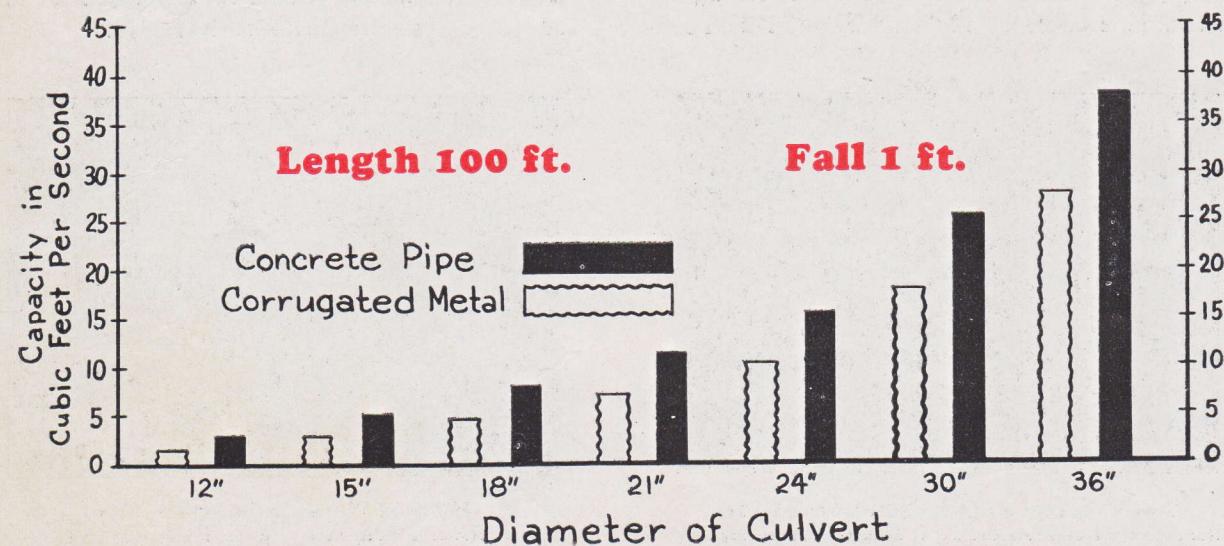
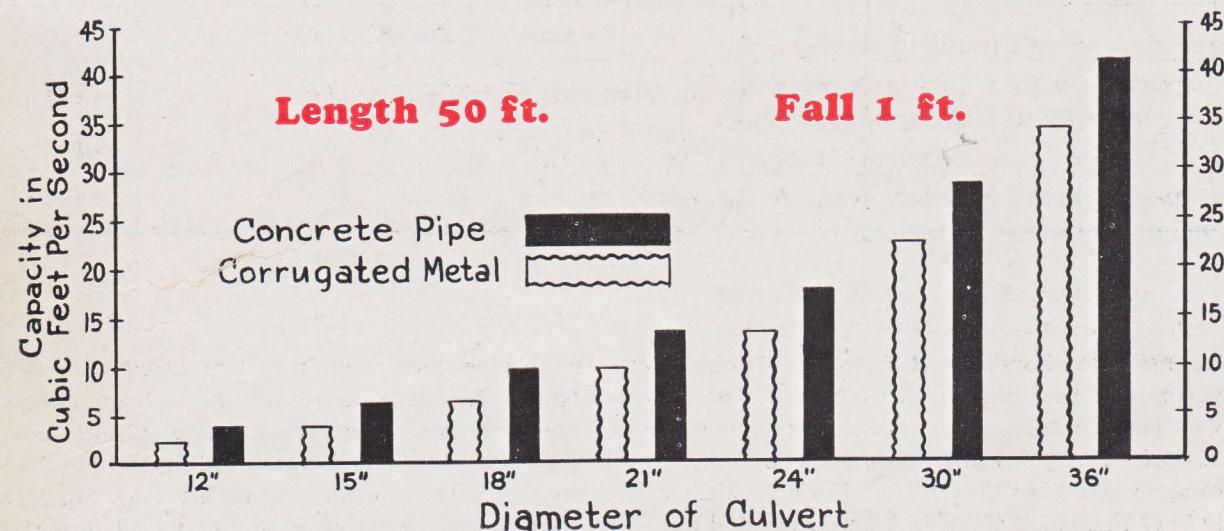
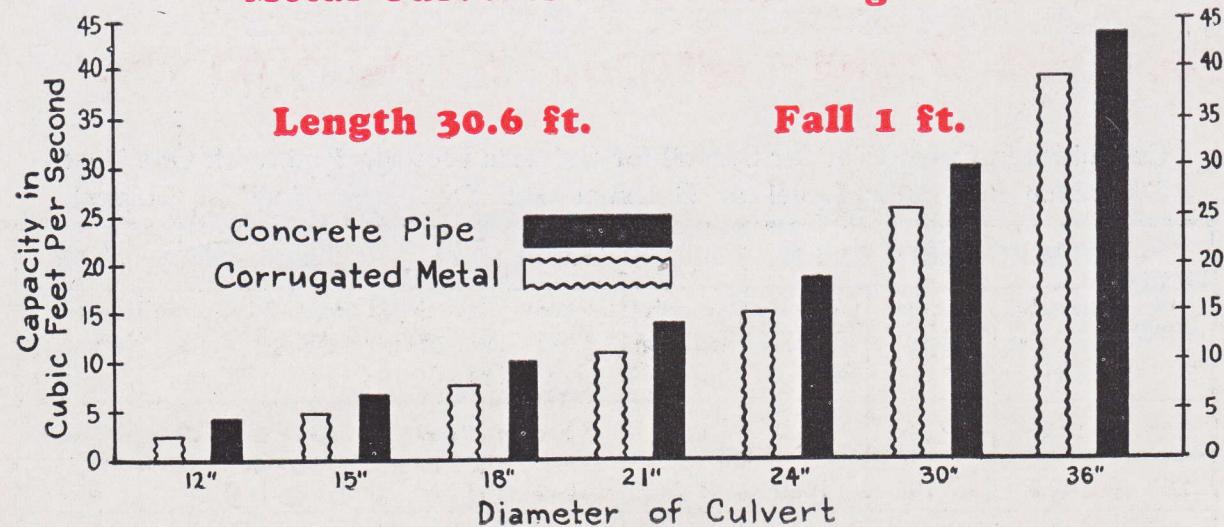


Flow of Water in Corrugated Metal Pipe.
Notice how water is retarded due to disturbance at corrugation



Flow of Water in Concrete Pipe.
Notice smooth flow of water throughout pipe

Comparative Capacities of Concrete Pipe and Corrugated Metal Culverts when Flowing Full



Estimated Cost to Produce Concrete Pipe in Quinn Pipe Forms

Concrete pipe produced by the wet or hand process method is familiar to most users of concrete pipe forms. This method has been used for many years and where the machine method is not used the manufacture of concrete pipe is made possible by this process.

Quinn Forms have been standard for over thirty years and are very essential in making a good grade of pipe when the hand process is used. The Quinn hand or poured method has proven very satisfactory to all users and the following cost data has been prepared for those who are not as familiar with concrete pipe manufacture. Most projects today, outside of farm drainage and small sewer pipe work, require reinforced pipe and the data prepared is on a basis of pipe made with welded fabric reinforcement.

Where the pipe is made of a semi-dry mix and tamped into the Forms to obtain a plain or unreinforced pipe the wire fabric may be deducted from the ton cost and figured without this item of expense.

The cost charts prepared are based on an average material and labor cost found in most sections of the country. The labor cost used is based on a rate of 50c per hour. You can substitute material and labor expense prevailing in your locality to arrive at cost price in your particular case.

MIXTURE—While many specifications call for 1-2-4 mix, we recommend for the hand or wet process method a mixture of 1-2-3; that is 1 part Portland cement, 2 parts clean washed sand and 3 parts clean washed gravel $\frac{3}{8}$ " to $\frac{3}{4}$ ".

MIXING—The material should be thoroughly mixed in an approved Mixer for at least three minutes dry, after which water should be added to make a mushy consistency, letting the Mixer run at least two minutes longer.

The mixture should not be sloppy, but stiff enough to require spading or vibrating of the concrete to place. A much higher strength concrete will be obtained by using just as little water as possible. The more water the less strength in the concrete, with higher absorption.

REINFORCEMENT—Rectangular mesh welded fabric is generally used for reinforcing the pipe. Steel used should conform to standard specifications and Table No. 1 is recommended for standard concrete sewer pipe to meet the strength requirements. Table 2 will meet most specifications for standard culvert road pipe.

PIPE COST—The cost of the concrete mix used in the pipe is generally figured by the ton or yard. For convenience the figures prepared are on a ton basis and runs as follows:

Cost per ton of concrete—1-2-3 Mix:

333 lbs. Cement at \$0.60 per sack...	\$2.00
667 lbs. Sand at \$1.20 per ton.....	.40
1000 lbs. Gravel at \$1.50 per ton.....	.75

Cost per ton of concrete.....\$3.15

LABOR—The cost of labor of course varies in different localities. However we are using a rate of 50c per hour in estimating the ton cost for this item. We have found a fair charge for labor per ton of rammed concrete into pipe runs about as follows:

12" to 27" inclusive.....	\$1.75
30" to 108" inclusive.....	1.50

Burden or overhead expense is of course hard to estimate, but a fair average will be about 100 per cent of labor cost.

Using the above cost of concrete per ton, labor per ton, and burden per ton, Tables No. 6 and 7 will give the cost of the various sizes of pipe per ton and lineal foot.

Estimated Cost to Produce All Sizes of Reinforced Sewer Pipe

TABLE NO. 6—The following table is prepared to show the cost of the different sizes of pipe, based on a ton cost of concrete, together with wire cost per ton of concrete, as shown in Table No. 1.

A	B	C	D	E	F	G	H	I	J	K
12"	2"	100	50	3.15	1.00	1.75	1.75	7.65	382.50	.38
15"	2 $\frac{1}{4}$ "	128	64	3.15	.94	1.75	1.75	7.59	485.76	.49
18"	2 $\frac{1}{2}$ "	168	84	3.15	.83	1.75	1.75	7.48	788.32	.79
21"	2 $\frac{3}{4}$ "	216	108	3.15	.74	1.75	1.75	7.39	798.12	.80
24"	3"	268	134	3.15	.75	1.75	1.75	7.40	991.60	1.00
27"	3"	298	149	3.15	.80	1.75	1.75	7.45	1110.05	1.12
30"	3 $\frac{1}{2}$ "	384	192	3.15	.84	1.50	1.50	6.99	1342.08	1.35
33"	3 $\frac{3}{4}$ "	450	225	3.15	.89	1.50	1.50	7.04	1584.00	1.59
*36"	4"	524	262	3.15	1.30	1.50	1.50	7.45	1951.90	1.96
*42"	4 $\frac{1}{2}$ "	684	342	3.15	1.20	1.50	1.50	7.35	2513.70	2.52
*48"	5"	868	434	3.15	1.25	1.50	1.50	7.40	3211.60	3.22
*54"	5 $\frac{1}{2}$ "	1070	535	3.15	1.27	1.50	1.50	7.42	3969.70	3.97
*60"	6"	1290	645	3.15	1.38	1.50	1.50	7.53	4856.85	4.86
*72"	7"	1800	900	3.15	1.40	1.50	1.50	7.55	6795.00	6.80
*84"	8"	2400	1200	3.15	1.40	1.50	1.50	7.55	9060.00	9.06

*Indicates pipe from 36" and larger in size has two lines of wire reinforcement.

Explanation of Symbols

A—Size of Pipe
 B—Wall Thickness
 C—Weight per foot
 D—Tons per 1,000 feet Pipe

E—Cost per ton Concrete
 F—Cost Wire per ton Concrete
 G—Labor cost per ton Concrete
 H—Overhead Expense per ton Concrete

I—Net cost per ton Pipe
 J—Net cost per 1,000 feet Pipe
 K—Net cost per foot Pipe

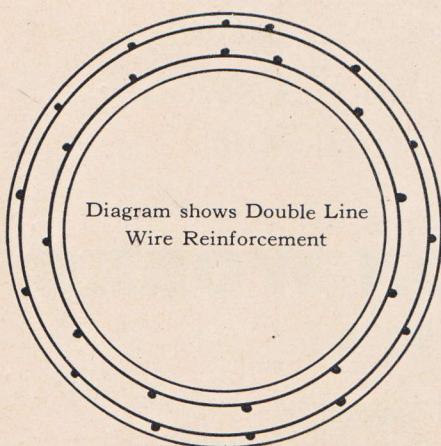
In figuring estimated cost of unreinforced concrete pipe the above table may be used by deducting cost of wire reinforcement outlined under Column F.

Estimated Cost to Produce All Sizes of Reinforced Culvert Pipe

TABLE NO. 7—The following table is prepared to show the cost of the different sizes of pipe, based on a ton cost of concrete, together with wire cost per ton of concrete, as shown in Table No. 2.

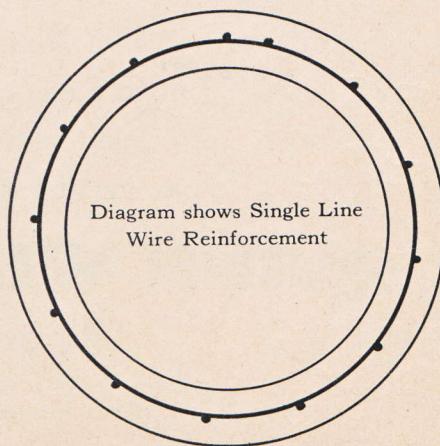
A	B	C	D	E	F	G	H	I	J	K
12"	2"	100	50	3.15	1.20	1.75	1.75	7.85	392.50	.40
15"	2 $\frac{1}{4}$ "	128	64	3.15	1.25	1.75	1.75	7.90	505.60	.51
18"	2 $\frac{1}{2}$ "	168	84	3.15	1.43	1.75	1.75	8.08	678.72	.68
24"	3"	268	134	3.15	1.50	1.75	1.75	8.15	1092.10	1.10
30"	3 $\frac{1}{2}$ "	384	192	3.15	1.83	1.50	1.50	7.98	1532.16	1.52
*30"	3 $\frac{1}{2}$ "	384	192	3.15	2.61	1.50	1.50	8.76	1681.92	1.69
*36"	4"	524	262	3.15	2.52	1.50	1.50	8.67	2271.54	2.28
*42"	4 $\frac{1}{2}$ "	684	342	3.15	2.52	1.50	1.50	8.67	2965.14	2.97
*48"	5"	868	434	3.15	2.72	1.50	1.50	8.87	3849.58	3.85
*54"	5 $\frac{1}{2}$ "	1070	535	3.15	2.92	1.50	1.50	9.07	4852.45	4.86
*60"	6"	1290	645	3.15	2.70	1.50	1.50	8.85	5708.25	5.71
*72"	7"	1800	900	3.15	3.00	1.50	1.50	9.15	8235.00	8.24
*84"	8"	2400	1200	3.15	3.09	1.50	1.50	9.24	11088.00	11.09

*Indicates pipe from 30" and larger in size has two lines of wire reinforcement.

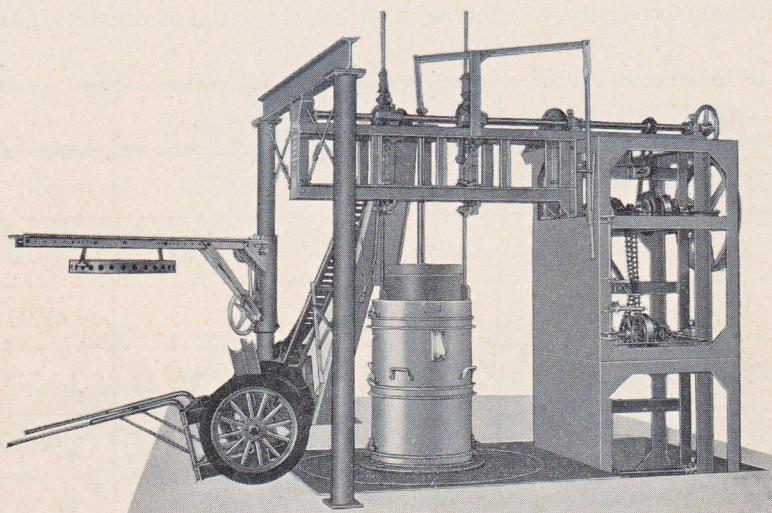


Explanation of Symbols

- A—Size of Pipe
- B—Wall Thickness
- C—Weight per foot
- D—Tons per 1,000 feet Pipe
- E—Cost per ton Concrete
- F—Cost Wire per ton Concrete
- G—Labor cost per ton Concrete
- H—Overhead Expense per ton Concrete
- I—Net cost per ton Pipe
- J—Net cost per 1,000 feet Pipe
- K—Net cost per foot Pipe



The Famous Quinn Medium Duty Concrete Pipe Machine



WE ARE manufacturers of Quinn Heavy Duty and Medium Duty Concrete Pipe Machines, leaders in the field of automatic machines for the production of machine-made concrete pipe.

Capacity of the Quinn Concrete Pipe Machine permits production up to 125 tons per day in the larger sizes of pipe, which has made it first choice among large producers of concrete pipe in sizes to all demands. Large capacity also effects a saving of 25 per cent in labor costs.

Those also interested in securing information on the complete line of Quinn Concrete Pipe Machines, for producing highest quality machine-made pipe, should write for literature.

QUINN WIRE & IRON WORKS
Boone, Iowa, U. S. A.

Also Manufacturers of Agricultural Specialties

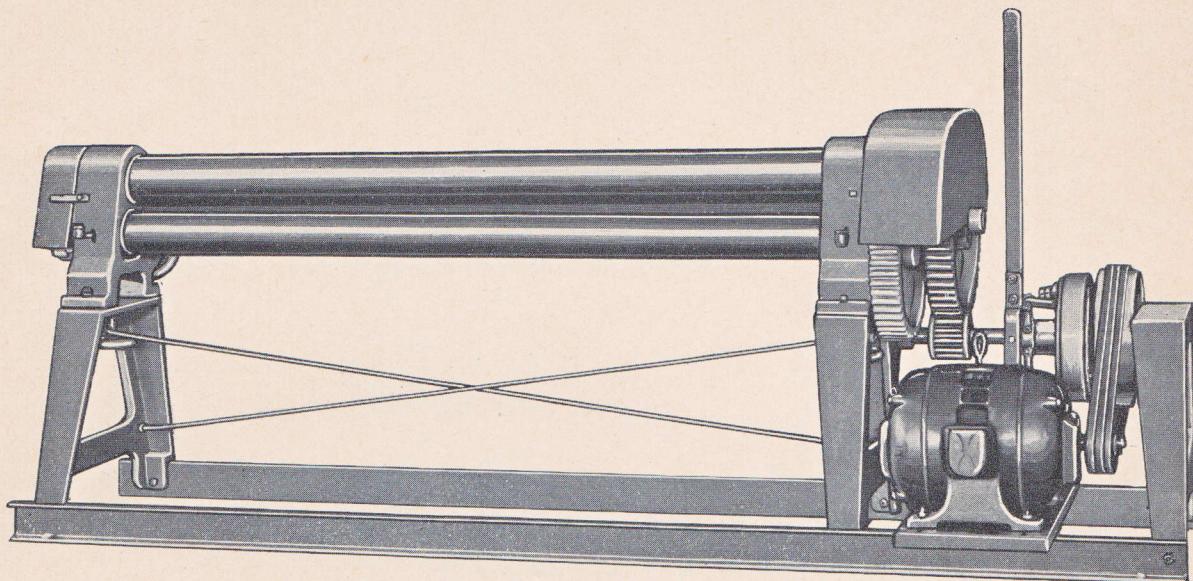
QUINN

QUINN BENDING ROLLS

For Welded Wire Fabric

The Quinn Bending Rolls have been designed to meet a demand for medium priced rolls for shaping wire fabric for concrete pipe, as well as for rolling other materials where it is not necessary to slip the piece formed out over the ends of the rolls.

These rolls have proven satisfactory in every respect over a period of years with scores of concrete pipe producers, as well as other users of rolls for similar products. The rolls can be furnished in two sizes---four-foot and six-foot lengths.



S P E C I F I C A T I O N S

FOUR FOOT LENGTH

Between Housings	. . . . .	54 inches
Top Steel Roll	. . . . .	4 " "
Lower Steel Rolls	. . . . .	3 5/8 " "
Capacity	. . . . .	No. 00 wire

The above roll is equipped with motor and V-belt drive or, if desired, without motor but with pulley for belt drive.

Weight with motor drive 1760 lbs.
Weight with belt drive 1560 "

Price equipped with 5 H. P. motor,
V-belt drive and friction clutch . . . \$500.00 ea.

Price without motor but equipped with friction clutch and pulley for belt drive \$375.00 ea.

SIX FOOT LENGTH

Between Housings	. . . . .	76 inches
Top Steel Roll	. . . . .	5 1/2 " "
Lower Steel Rolls	. . . . .	5 " "
Capacity	. . . . .	No. 00 wire

The above roll is equipped with motor and V-belt drive or, if desired, without motor but with pulley for belt drive.

Weight with motor drive 3170 lbs.
Weight with belt drive 2970 lbs.

Price equipped with 5 H. P. motor,
V-belt drive and friction clutch . . . \$750.00 ea.

Price without motor but equipped with friction clutch and pulley for belt drive \$625.00 ea.

Prices F. O. B. Boone, Iowa

QUINN WIRE & IRON WORKS
Boone, Iowa, U. S. A.

QUINN HEAVY DUTY PIPE FORMS AND ATTACHMENTS

PRICE LIST

Tongue and Groove Type

EFFECTIVE OCT. 15, 1947

Standard Wall Thickness

Diameter Pipe—In.	Wall Thick- ness—In.	LENGTH OF PIPE						Groove Form- ing Pallet BASE TYPE	Groove Form- ing Pallet PLAIN TYPE	Tongue Form- ing Header CLOSED TYPE	Tongue Form- ing Header OPEN TYPE	Shoveling Plate	Hopper	
		30 in.	36 in.	48 in.	60 in.	72 in.	96 in.							
10	1 3/4	\$132.00	\$140.00					\$ 5.00	\$ 3.00	\$ 6.60	\$ 5.60	\$ 5.60	\$ 12.00	
12	2	138.00	146.00	\$180.00	\$234.00	\$274.00	378.00	5.20	4.00	8.80	6.60	7.00	14.00	
15	2 1/4	142.00	150.00	186.00	248.00	292.00	390.00	7.00	5.40	11.00	9.80	8.40	16.00	
18	2 1/2	154.00	162.00	204.00	266.00	322.00	428.00	9.00	7.20	13.20	11.00	10.00	19.00	
21	2 3/4	172.00	182.00	236.00	306.00	352.00	496.00	12.00	9.00	15.40	13.20	13.20	20.60	
24	3	182.00	202.00	266.00	346.00	380.00	560.00	16.40	12.60	18.40	17.60	16.00	23.00	
27	3	190.00	212.00	284.00	370.00	412.00	596.00	18.20	14.00	20.60	19.40	19.00	24.20	
30	3 1/2	198.00	220.00	300.00	390.00	434.00	630.00	19.80	15.40	24.20	21.00	22.60	26.00	
33	3 3/4	208.00	230.00	316.00	410.00	460.00	664.00	25.00	19.80	28.60	25.40	25.20	28.00	
36	4	214.00	238.00	332.00	436.00	504.00	698.00	29.60	22.80	34.40	30.80	29.20	30.00	
39	4 1/4	238.00	264.00	364.00	476.00	530.00	766.00	34.60	26.40	41.80	37.40	32.00	34.00	
42	4 1/2	260.00	288.00	396.00	514.00	570.00	832.00	39.60	29.60	46.20	41.80	39.00	37.20	
45	4 1/2			428.00	554.00	620.00	900.00	45.00	34.00		48.40	42.00	41.20	
48	5			458.00	592.00	672.00	962.00	50.60	41.80	55.00	45.00	44.00		
54	5 1/2			514.00	630.00	728.00	1080.00	68.00	55.00	74.80	53.00	51.00		
60	6			568.00	666.00	784.00	1192.00	79.20	67.00	87.40	60.00	58.00		
66	6 1/2			600.00	704.00	848.00	1260.00	*112.00	*100.00	114.00	72.00	67.20		
72	7			632.00	746.00	910.00	1328.00	*164.00	*132.00	140.00	90.00	80.00		
78	7 1/2			698.00	820.00	1004.00	1466.00	*224.00	*192.00	184.00	106.00	96.00		
84	8			764.00	894.00	1098.00	1606.00	*246.00	*226.00	194.00	120.00	112.00		
90	8			+864.00	+1006.00	+1236.00	+1818.00	288.00	270.00	276.00	140.00	120.00		
96					+1148.00	+1426.00	+214.00	+510.00			+395.00	160.00	140.00	

*Machined on Inside and Outside Diameters.

†Made in Sections to Facilitate Handling.

Approximate Shipping Weights, Crated Forms, Pallets, Headers, Etc., in Pounds, of the Various Sizes and Lengths.

10	1 3/4	255	280	350				16	6	8	5	9	23
12	2	275	305	415	500	600	850	16	8	11	14	10	25
15	2 1/4	325	370	480	620	725	1050	25	15	16	20	15	27
18	2 1/2	400	440	550	735	810	1175	37	21	23	28	20	32
21	2 3/4	450	500	660	815	970	1325	38	24	33	30	25	36
24	3	525	570	780	915	1085	1475	62	42	43	45	32	42
27	3	545	620	845	1000	1175	1600	68	42	49	46	50	47
30	3 1/2	600	675	945	1200	1350	1750	76	50	53	50	60	51
33	3 3/4	650	745	1010	1290	1375	1900	95	65	65	65	70	55
36	4	730	815	1100	1400	1575	2040	125	85	89	90	83	60
39	4 1/4	780	855	1175	1500	1590	2165	150	100	140	103	86	65
42	4 1/2	825	1000	1270	1650	1735	2320	155	108	150	113	110	70
45	4 1/2			1350	1780	1850	2440	200	125		140	125	75
48	5			1540	1920	2250	2820	215	164		160	140	80
54	5 1/2			1650	2065	2500	3125	282	230		206	175	90
60	6			1835	2235	2700	3425	300	245		230	220	100
66	6 1/2			2030	2370	2875	3775	335	300		305	275	160
72	7			2250	2730	3065	4200	587	470		432	335	200
78	7 1/2			2600	2850	3500	4600	745	635		550	380	240
84	8			2800	3100	3800	5100	800	730		610	440	260
90	8			3100	3400	4200	5500	1050	950		730	520	300
96	8 1/2			3600	4500	5900	1140				780	560	320

Hand Tampers for making pipe by the
semi-dry process-----\$3.00 each

Hand Spaders for making pipe by the
wet process-----\$3.00 each

When ordering equipment observe the following:

Quinn Forms are built of heavy material, rolled true to shape and reinforced, assuring a strong rigid member that will stand up under hard use, holding their original shape, thus producing a pipe with a uniform wall thickness.

Quinn Forms are also a great labor saver as there are no bolts or nuts to be removed when the forms are ready to be removed from the finished pipe. They are assembled

(over)

quickly for filling with concrete, as the locks on the jackets are quick-acting and one half turn of a hand socket wrench reduces the diameter of the core for quick removal.

Field or hand cast pipe has a standard wall thickness as outlined in the price list and same conforms to general specifications for the size pipe. The forms as listed will produce a pipe of the same length; for instance, a 24" x 48" x 3" wall form for tongue-and-groove will make a pipe having a laying length of 48". In making cast pipe it is necessary to leave the forms in place, after being filled with concrete, until the concrete has hardened sufficiently so the forms can be removed without injury to the concrete. Weather permitting, forms can be filled twice each day.

ATTACHMENTS

All Pallets and Headers Are Cast from High Grade Fine-Grained Semi-Steel.

Groove Forming Pallets (Base Type)—This type pallet is constructed to form a base for the jacket and core to rest on, allowing the pipe to be made in the open or along the line of ditch. These pallets do away with the necessity for using a concrete floor or an individual wood platform for each pipe made. The base type pallet can be used on the ground outside a building or inside if desirable.

Groove Forming Pallets (Plain Type)—This type fits inside the form but it is necessary to have a concrete floor or individual wood platform for the pallet and form to rest on. Where pipe is made inside a building having a concrete floor or outside where a concrete floor has been laid, the plain pallets work just as readily as the above base type pallets.

Number of Pallets Needed—At least three pallets for each form should be ordered, as the pipe should be left on the pallet after the form is removed for at least 24 hours, or until the concrete has hardened enough so the pipe can be tipped over for the removal of the pallet.

Tongue Forming Headers (Closed Type)—This type of header is the same as the plain pallet except being equipped with upright handles. When form has been filled to the top, a stiffer concrete mix is used for making the tongue. The concrete is simply troweled on top to a peak against the core (the core being longer than the jacket), after which the closed header is slipped over the core and worked back and forth until it has settled against the top of the jacket. Many pipe makers prefer this type up to at least 30".

Tongue Forming Headers (Open Type)—These headers are constructed with the top open so the concrete can be worked into place after the header has been placed on the form. Many prefer this type over the closed type, especially for larger pipe.

Number of Headers Needed—We recommend one header for each form.

Shoveling Plate—This plate is constructed of a heavy circular plate with circular channel iron welded to bottom, the channel iron fitting inside the core. This plate serves as a receiver for the concrete where it is distributed into the forms. One shoveling plate will take care of several forms of the same size.

Hopper—The type hopper furnished will be circular, reinforced with channel iron and equipped with wall spacers, which holds the core and jacket in a central position, assuring a uniform wall thickness at all times. One hopper will take care of several forms of the same size.

Hand Tamped Pipe Semi-Dry Mix Concrete

When it is desirable to make plain pipe unreinforced in the smaller sizes and not exceeding 36" in length, a semi-dry concrete can be used, tamping the concrete into the forms and removing same at once. This process calls for one or more forms of a given size and a few more pallets than the number of pipe to be made each day. The set-up would be as follows:

- 1 Form of a given size.
- 1 Hopper.
- 1 Shoveling Plate.
- 1 Tongue Header Closed Type.
- 2 Tampers.
- 10 or more Pallets.

The price list applies to this type of equipment and when ordering specify whether hand tamped pipe or wet cast pipe is to be made. Pages 18 and 19 of the catalog will give you a suggested set-up.

Remember Quinn Concrete Pipe equipment is built for service and is the result of over twenty-five years experience in the manufacture and sale of pipe forms and pipe machinery.

QUINN WIRE & IRON WORKS

BOONE, IOWA, U. S. A.

QUINN MEDIUM DUTY PIPE FORMS AND ATTACHMENTS

PRICE LIST

Tongue and Groove Type EFFECTIVE OCT. 15, 1947 Standard Wall Thickness

Diameter Pipe, inch	Wall Thickness inch	LENGTH OF PIPE I				Groove Form- ing Pallet BASE TYPE	Groove Form- ing Pallet PLAIN TYPE	Tongue Form- ing Header CLOSED TYPE	Tongue Form- ing Header OPEN TYPE	Shoveling Plate	Hopper
		30 in.	36 in.	48 in.	72 in.						
10	1 3/4	\$104.00	\$110.00			\$5.00	\$3.00	\$6.60	\$5.60	\$5.60	\$12.00
12	2	108.00	114.00	\$138.00	\$228.00	6.40	4.00	8.80	6.60	7.00	14.00
15	2 1/4	116.00	126.00	154.00	252.00	8.00	5.40	11.00	9.80	8.40	16.00
18	2 1/2	130.00	144.00	168.00	288.00	10.00	7.20	13.20	11.00	10.00	19.00
21	2 3/4	142.00	150.00	180.00	300.00	12.40	9.00	15.40	13.20	13.20	20.60
24	3	150.00	158.00	190.00	316.00	17.00	12.60	18.40	17.60	16.00	23.00
27	3	160.00	168.00	204.00	336.00	19.00	14.00	20.60	19.40	19.00	24.20
30	3 1/2	168.00	176.00	230.00	352.00	20.40	15.40	24.20	21.00	22.60	26.00
33	3 3/4	176.00	184.00	250.00	368.00	26.40	19.80	28.60	25.40	25.20	28.00
36	4	182.00	192.00	272.00	384.00	30.40	22.80	34.40	30.80	29.20	30.00
39	4 1/4			286.00	408.00	36.40	26.40	41.80	37.40	32.00	34.00
42	4 1/2			304.00	436.00	42.00	29.60	46.20	41.80	39.00	37.20
45	4 1/2			320.00	476.00	48.00	34.00		48.40	42.00	41.20
48	5			340.00	524.00	54.00	41.80		55.00	45.00	44.00
54	5 1/2			374.00	570.00	74.00	55.00		74.80	53.00	51.00
60	6			404.00	628.00	90.00	67.00		87.40	60.00	58.00
66						*148.00	*100.00		114.00	72.00	67.20
72						*184.00	*132.00		140.00	90.00	80.00
78						*244.00	*192.00		184.00	106.00	96.00
84						*276.00	*226.00		194.00	120.00	112.00
90						300.00	270.00		276.00	140.00	120.00
96						*510.00			*395.00	160.00	140.00

*Machined on Inside and Outside Diameters.

†Made in Sections to Facilitate Handling

Approximate Shipping Weights, Crated, of Forms, Pallets, Headers, Etc., in Pounds, in the Various Sizes and Lengths.

10	1 3/4	195	205			15	6	8	5	9	23
12	2	205	220	310	475	19	8	11	14	10	25
15	2 1/4	240	270	365	540	29	15	16	20	15	27
18	2 1/2	275	300	420	615	40	21	23	28	20	32
21	2 3/4	300	340	470	685	53	24	33	30	25	36
24	3	350	375	525	750	67	42	43	45	32	42
27	3	395	400	550	810	72	42	49	46	50	47
30	3 1/2	415	435	610	870	77	50	53	50	60	51
33	3 3/4	430	475	660	950	95	65	65	65	70	55
36	4	465	520	710	1010	125	85	89	90	83	60
39	4 1/4			750	1075	145	100	140	103	86	65
42	4 1/2			850	1150	165	108	150	113	110	70
45	4 1/2			890	1250	200	125		140	125	75
48	5			1000	1375	236	164		160	140	80
54	5 1/2			1100	1500	295	230		206	175	90
60	6			1200	1650	385	245		230	220	100
66	6 1/2				405	300			305	275	160
72	7				665	470			432	335	200
78	7 1/2				885	635			550	380	240
84	8				910	730			610	440	260
90	8				1120	950			730	520	300
96	8 1/2				1140				780	560	320

Hand Tamers for making pipe by the semi-dry process-----\$3.00 each

Hand Spaders for making pipe by the wet process-----\$3.00 each

When ordering equipment observe the following:

Quinn Medium Duty forms are built of lighter material, but reinforced, producing a good form. These forms can be recommended for operation where long and continuous service is not required. These forms produce a high quality pipe but will not stand

(over)

rough usage like the Heavy Duty type equipment. For medium work these forms will answer the purpose and give excellent service.

Quinn forms are great labor savers as there are no bolts or nuts to be removed when the forms are ready to be removed from the finished pipe. They are assembled quickly for filling with concrete, as the locks on the jackets are quick-acting and one half turn of a hand socket wrench reduces the diameter of the core for quick removal.

Field or hand cast pipe has a standard wall thickness as outlined in the price list and same conforms to general specifications for the size pipe. The forms as listed will produce a pipe of the same length; for instance, a 24" x 48" x 3" wall form for tongue-and-groove will make a pipe having a laying length of 48". In making cast pipe it is necessary to leave the forms in place, after being filled with concrete, until the concrete has hardened sufficiently so the forms can be removed without injury to the concrete. Weather permitting, forms can be filled twice each day.

00.312	00.62	00.68	00.92	00.62	00.62	00.0112	00.6012	11	01
00.61	00.7	00.8	00.8	00.7	00.7	00.8812	00.4112	00.8012	11
00.81	00.8	00.8	00.11	00.8	00.8	00.1612	00.8112	00.8112	11
00.91	00.01	00.11	00.21	00.01	00.01	00.1112	00.0512	00.0512	11
00.00	00.81	00.81	00.81	00.81	00.81	00.0112	00.0112	00.0112	11

ATTACHMENTS

All Pallets and Headers Are Cast from High Grade Fine-Grained Semi-Steel.

Groove Forming Pallets (Base Type)—This type pallet is constructed to form a base for the jacket and core to rest on, allowing the pipe to be made in the open or along the line of ditch. These pallets do away with the necessity for using a concrete floor or an individual wood platform for each pipe made. The base type pallet can be used on the ground outside a building or inside if desirable.

Groove Forming Pallets (Plain Type)—This type fits inside the form but it is necessary to have a concrete floor or individual wood platform for the pallet and form to rest on. Where pipe is made inside a building having a concrete floor or outside where a concrete floor has been laid, the plain pallets work just as readily as the above base type pallets.

Number of Pallets Needed—At least three pallets for each form should be ordered, as the pipe should be left on the pallet after the form is removed for at least 24 hours, or until the concrete has hardened enough so the pipe can be tipped over for the removal of the pallet.

Tongue Forming Headers (Closed Type)—This type of header is the same as the plain pallet except being equipped with upright handles. When form has been filled to the top, a stiffer concrete mix is used for making the tongue. The concrete is simply troweled on top to a peak against the core (the core being longer than the jacket), after which the closed header is slipped over the core and worked back and forth until it has settled against the top of the jacket. Many pipe makers prefer this type up to at least 30".

Tongue Forming Headers (Open Type)—These headers are constructed with the top open so the concrete can be worked into place after the header has been placed on the form. Many prefer this type over the closed type, especially for larger pipe.

Number of Headers Needed—We recommend one header for each form.

Shoveling Plate—This plate is constructed of a heavy circular plate with circular channel iron welded to bottom, the channel iron fitting inside the core. This plate serves as a receiver for the concrete where it is distributed into the forms. One shoveling plate will take care of several forms of the same size.

Hopper—The type hopper furnished will be circular, reinforced with channel iron and equipped with wall spacers, which holds the core and jacket in a central position, assuring a uniform wall thickness at all times. One hopper will take care of several forms of the same size.

Hand Tamped Pipe Semi-Dry Mix Concrete

Only Quinn Heavy Duty forms are recommended for making pipe by the semi-dry process. The reason for this is that only extra-strong, rigid forms will stand up under heavy, irregular hand tamping. Suggestions which will assist you in selecting the proper kind and amount of form equipment will be found on pages 18 and 19 in the catalog.

Remember Quinn Concrete Pipe equipment is built for service and is the result of over twenty-five years experience in the manufacture and sale of pipe forms and pipe machinery.

014	018	030	040	048	056	065
011	011	031	031	041	051	061
017	031	041	041	051	061	071
018	030	040	048	056	065	075

018	030	040	048	056	065	075
030	030	040	048	056	065	075
030	030	040	048	056	065	075
030	030	040	048	056	065	075

018	030	040	048	056	065	075
030	030	040	048	056	065	075
030	030	040	048	056	065	075
030	030	040	048	056	065	075

High Strength for making pipe
semi-dry process
When ordering
Quinn Heavy Duty
headers, please
specify
size.

High Strength for making pipe
semi-dry process
When ordering
Quinn Heavy Duty
headers, please
specify
size.

High Strength for making pipe
semi-dry process
When ordering
Quinn Heavy Duty
headers, please
specify
size.

High Strength for making pipe
semi-dry process
When ordering
Quinn Heavy Duty
headers, please
specify
size.

QUINN WIRE & IRON WORKS

BOONE, IOWA, U. S. A.

(1940)

QUINN HEAVY DUTY PIPE FORMS AND ATTACHMENTS

PRICE LIST

Tongue and Groove Type

EFFECTIVE DEC. 1, 1946

Standard Wall Thickness

Diameter Pipe—In.	Wall Thick- ness—In.	LENGTH OF PIPE						Groove Form- ing Pallet BASE TYPE	Groove Form- ing Pallet PLAIN TYPE	Tongue Form- ing Header CLOSED TYPE	Tongue Form- ing Header OPEN TYPE	Shoveling Plate	Hopper
		30 in.	36 in.	48 in.	60 in.	72 in.	96 in.						
10	1 1/4	\$60.00	\$65.00	\$74.00				\$ 2.50	\$ 1.50	\$ 3.00	\$ 2.50	\$ 2.50	\$ 6.00
12	2	65.00	68.00	78.00	90.00	114.00	164.00	2.60	2.00	4.00	3.00	3.00	6.50
15	2 1/4	69.00	72.00	81.00	98.00	121.00	170.00	3.00	2.50	5.00	4.50	3.50	7.00
18	2 1/2	74.00	78.00	89.00	106.00	136.00	187.00	4.00	3.00	6.00	5.00	4.50	8.00
21	2 3/4	78.00	82.00	95.00	113.00	151.00	200.00	5.50	3.75	7.00	6.00	6.00	9.25
24	3	81.00	89.00	105.00	129.00	162.00	220.00	7.50	5.50	8.00	8.00	7.00	10.50
27	3	85.00	94.00	121.00	140.00	168.00	254.00	8.00	6.00	9.00	8.50	8.50	11.00
30	3 1/2	89.00	97.00	128.00	153.00	174.00	269.00	9.00	7.00	11.00	9.50	10.50	11.50
33	3 3/4	93.00	101.00	134.00	164.00	184.00	281.00	11.50	9.00	13.00	12.50	11.50	12.50
36	4	101.00	108.00	140.00	172.00	202.00	294.00	13.50	10.00	15.00	14.00	12.00	13.50
39	4 1/4	108.00	117.00	146.00	178.00	212.00	307.00	16.50	12.00	19.00	17.00	13.50	14.50
42	4 1/2	116.00	125.00	151.00	190.00	228.00	317.00	18.00	13.50	21.00	19.00	15.50	15.50
45	4 1/2			163.00	202.00	248.00	342.00	20.00	15.00		22.00	17.50	16.50
48	5			185.00	224.00	274.00	388.00	23.00	19.00		25.00	18.50	17.50
54	5 1/2			208.00	252.00	314.00	437.00	32.00	25.00		34.00	20.00	18.50
60	6			221.00	273.00	340.00	464.00	36.00	27.00		38.50	24.00	22.00
66	6 1/2			238.00	294.00	368.00	500.00	50.00	35.00		53.00	30.00	28.00
72	7			266.00	315.00	395.00	559.00	66.00	55.00		69.00	37.50	33.00
78	7 1/2			295.00	350.00	443.00	620.00	82.00	75.00		83.00	43.00	38.00
84	8			322.00	380.00	481.00	676.00	92.00	84.00		95.00	48.00	42.00
90	8			347.00	434.00	520.00	729.00	120.00	104.00		125.00	53.00	47.00

Approximate Shipping Weights of Crated Forms, Pallets, Headers, Etc.,
in Pounds, of the Various Sizes and Lengths.

10	1 1/4	255	280	350				16	6	8	5	9	23
12	2	275	305	415	500	600	850	16	8	11	14	10	25
15	2 1/4	325	370	480	620	725	1050	25	15	16	20	15	27
18	2 1/2	400	440	550	735	810	1175	37	21	23	28	20	32
21	2 3/4	450	500	660	815	970	1325	38	24	33	30	25	36
24	3	525	570	780	915	1085	1475	62	42	43	45	32	42
27	3	545	620	845	1000	1175	1600	68	42	49	46	50	47
30	3 1/2	600	675	945	1200	1350	1750	76	50	53	50	60	51
33	3 3/4	650	745	1010	1290	1375	1900	95	65	65	65	70	55
36	4	730	815	1100	1400	1575	2040	125	85	89	90	83	60
39	4 1/4	780	855	1175	1500	1590	2165	150	100	140	103	86	65
42	4 1/2	825	1000	1270	1650	1735	2320	155	108	150	113	110	70
45	4 1/2			1350	1780	1850	2440	200	125		140	125	75
48	5			1540	1920	2250	2820	215	164		160	140	80
54	5 1/2			1650	2065	2500	3125	282	230		206	175	90
60	6			1835	2235	2700	3425	300	245		230	220	100
66	6 1/2			2030	2370	2875	3775	460	385		305	275	160
72	7			2250	2730	3065	4200	587	470		432	335	200
78	7 1/2			2600	2850	3500	4600	745	635		550	380	240
84	8			2800	3100	3800	5100	800	730		610	440	260
90	8			3100	3400	4200	5500	1050	950		730	520	300

Hand Tamers for making pipe by the
semi-dry mix \$1.20 each

Hand Spaders for making pipe by the
wet process \$1.20 each

When ordering equipment observe the following:

Quinn Forms are built of heavy material, rolled true to shape and reinforced, assuring a strong rigid member that will stand up under hard use, holding their original shape, thus producing a pipe with a uniform wall thickness.

Quinn Forms are also a great labor saver as there are no bolts or nuts to be removed when the forms are ready to be removed from the finished pipe. They are assembled quickly for filling with concrete, as the locks on the jackets are quick-acting and one half turn of a hand socket wrench reduces the diameter of the core for quick removal.

Field or hand cast pipe has a standard wall thickness as outlined in the price list and

same conforms to general specifications for the size pipe. The forms as listed will produce a pipe of the same length; for instance, a 24" x 48" x 3" wall form for tongue-and-groove will make a pipe having a laying length of 48". In making cast pipe it is necessary to leave the forms in place, after being filled with concrete, until the concrete has hardened sufficiently so the forms can be removed without injury to the concrete. Weather permitting, forms can be filled twice each day.

ATTACHMENTS

Groove Forming Pallets (Base Type)—This type pallet is constructed to form a base for the jacket and core to rest on, allowing the pipe to be made in the open or along the line of ditch. These pallets do away with the necessity for using a concrete floor or an individual wood platform for each pipe made. The base type pallet can be used on the ground outside a building or inside if desirable.

Groove Forming Pallets (Plain Type)—This type fits inside the form but it is necessary to have a concrete floor or individual wood platform for the pallet and form to rest on. Where pipe is made inside a building having a concrete floor or outside where a concrete floor has been laid, the plain pallets work just as readily as the above base type pallets.

Number of Pallets Needed—At least three pallets for each form should be ordered, as the pipe should be left on the pallet after the form is removed for at least 24 hours, or until the concrete has hardened enough so the pipe can be tipped over for the removal of the pallet.

Tongue Forming Headers (Closed Type)—This type of header is the same as the plain pallet except being equipped with upright handles. When form has been filled to the top, a stiffer concrete mix is used for making the tongue. The concrete is simply troweled on top to a peak against the core (the core being longer than the jacket), after which the closed header is slipped over the core and worked back and forth until it has settled against the top of the jacket. Many pipe makers prefer this type up to at least 30".

Tongue Forming Headers (Open Type)—These headers are constructed with the top open so the concrete can be worked into place after the header has been placed on the form. Many prefer this type over the closed type.

Number of Headers Needed—We recommend one header for each form.

Shoveling Plate—This plate is constructed of a heavy circular plate with circular channel iron welded to bottom, the channel iron fitting inside the core. This plate serves as a receiver for the concrete where it is distributed into the forms. One shoveling plate will take care of several forms of the same size.

Hopper—The type hopper furnished will be circular, reinforced with channel iron and equipped with wall spacers, which holds the core and jacket in a central position, assuring a uniform wall thickness at all times. One hopper will take care of several forms of the same size.

Hand Tamped Pipe Semi-Dry Mix Concrete

When it is desirable to make plain pipe unreinforced in the smaller sizes and not exceeding 36" in length, a semi-dry concrete can be used, tamping the concrete into the forms and removing same at once. This process calls for one or more forms of a given size and a few more pallets than the number of pipe to be made each day. The set-up would be as follows:

- 1 Form of a given size.
- 1 Hopper.
- 1 Shoveling Plate.
- 1 Tongue Header Closed Type.
- 2 Tamers.
- 10 or more Pallets.

The price list applies to this type of equipment and when ordering specify whether hand tamped pipe or wet cast pipe is to be made. Pages 18 and 19 of the catalog will give you a suggested set-up.

Remember Quinn Concrete Pipe equipment is built for service and is the result of over twenty-five years experience in the manufacture and sale of pipe forms and pipe machinery.

QUINN WIRE & IRON WORKS

BOONE, IOWA, U. S. A.

QUINN MEDIUM DUTY PIPE FORMS AND ATTACHMENTS

PRICE LIST

Tongue and Groove Type

EFFECTIVE DEC. 1, 1946

Standard Wall Thickness

Diameter Pipe	Wall Thickness	LENGTH OF PIPE				Groove Form- ing Pallet BASE TYPE	Groove Form- ing Pallet PLAIN TYPE	Tongue Form- ing Header CLOSED TYPE	Tongue Form- ing Header OPEN TYPE	Shoveling Plate	Hopper
		30 in.	36 in.	48 in.	72 in.						
10 in.	1 3/4 in.	\$45.00	\$48.00			\$2.50	\$1.50	\$3.00	\$2.50	\$2.50	\$6.00
12	2	48.00	51.00	\$60.00	\$90.00	3.00	2.00	4.00	3.00	3.00	6.50
15	2 1/4	52.00	57.00	67.00	100.00	3.50	2.50	5.00	4.50	3.50	7.00
18	2 1/2	62.00	66.00	71.00	107.00	4.50	3.00	6.00	5.00	4.50	8.00
21	2 3/4	66.00	70.00	78.00	117.00	6.00	3.75	7.00	6.00	6.00	9.25
24	3	70.00	75.00	83.00	125.00	8.00	5.50	8.00	8.00	7.00	10.50
27	3	75.00	80.00	89.00	133.00	8.50	6.00	9.00	8.50	8.50	11.00
30	3 1/2	78.00	84.00	95.00	142.00	9.50	7.00	11.00	9.50	10.50	11.50
33	3 3/4	80.00	88.00	114.00	154.00	12.00	9.00	13.00	12.50	11.50	12.50
36	4	86.00	92.00	124.00	175.00	14.50	10.00	15.00	14.00	12.00	13.50
39	4 1/4			130.00	186.00	17.50	12.00	19.00	17.00	13.50	14.50
42	4 1/2			138.00	200.00	19.00	13.50	21.00	19.00	15.50	15.50
45	4 1/2			150.00	215.00	21.00	15.00		22.00	17.50	16.50
48	5			155.00	233.00	24.00	19.00		25.00	18.50	17.50
54	5 1/2			173.00	260.00	35.00	25.00		34.00	20.00	18.50
60	6			195.00	292.00	40.00	27.00		38.50	24.00	22.00

Approximate Shipping Weights, Crated, of Forms, Pallets, Headers, Etc.,
in Pounds, in the Various Sizes and Lengths.

10 in.	1 3/4 in.	195	205			15	6	8	5	9	23
12	2	205	220	310	475	19	8	11	14	10	25
15	2 1/4	240	270	365	540	29	15	16	20	15	27
18	2 1/2	275	300	420	615	40	21	23	28	20	32
21	2 3/4	300	340	470	685	53	24	33	30	25	36
24	3	350	375	525	750	67	42	43	45	32	42
27	3	395	400	550	810	72	42	49	46	50	47
30	3 1/2	415	435	610	870	77	50	53	50	60	51
33	3 3/4	430	475	660	950	95	65	65	65	70	55
36	4	465	520	710	1010	125	85	89	90	83	60
39	4 1/4			750	1075	145	100	140	103	86	65
42	4 1/2			850	1150	165	108	150	113	110	70
45	4 1/2			890	1250	200	125		140	125	75
48	5			1000	1375	236	164		160	140	80
54	5 1/2			1100	1500	295	230		206	175	90
60	6			1200	1650	385	245		230	220	100

Hand Tampers for making pipe by the
semi-dry mix ----- \$1.20 each

Hand Spaders for making pipe by the
wet process ----- \$1.20 each

When ordering equipment observe the following:

Quinn Medium Duty forms are built of lighter material, but reinforced, producing a good form. These forms can be recommended for operation where long and continuous service is not required. These forms produce a high quality pipe but will not stand rough usage like the Heavy Duty type equipment. For medium work these forms will answer the purpose and give excellent service.

Quinn forms are great labor savers as there are no bolts or nuts to be removed when the forms are ready to be removed from the finished pipe. They are assembled quickly for filling with concrete, as the locks on the jackets are quick-acting and one full turn of a hand socket wrench reduces the diameter of the core for quick removal.

Field or hand cast pipe has a standard wall thickness as outlined in the price list and

same conforms to general specifications for the size pipe. The forms as listed will produce a pipe of the same length; for instance, a 24" x 48" x 3" wall form for tongue-and-groove will make a pipe having a laying length of 48". In making cast pipe it is necessary to leave the forms in place, after being filled with concrete, until the concrete has hardened sufficiently so the forms can be removed without injury to the concrete. Weather permitting, forms can be filled twice each day.

ATTACHMENTS

Groove Forming Pallets (Base Type)—This type pallet is constructed to form a base for the jacket and core to rest on, allowing the pipe to be made in the open or along the line of ditch. These pallets do away with the necessity for using a concrete floor or an individual wood platform for each pipe made. The base type pallet can be used on the ground outside a building or inside if desirable.

Groove Forming Pallets (Plain Type)—This type fits inside the form but it is necessary to have a concrete floor or individual wood platform for the pallet and form to rest on. Where pipe is made inside a building having a concrete floor or outside where a concrete floor has been laid, the plain pallets work just as readily as the above base type pallets.

Number of Pallets Needed—At least three pallets for each form should be ordered, as the pipe should be left on the pallet after the form is removed for at least 24 hours, or until the concrete has hardened enough so the pipe can be tipped over for the removal of the pallet.

Tongue Forming Headers (Closed Type)—This type of header is the same as the plain pallet except being equipped with upright handles. When form has been filled to the top, a stiffer concrete mix is used for making the tongue. The concrete is simply troweled on top to a peak against the core (the core being longer than the jacket), after which the closed header is slipped over the core and worked back and forth until it has settled against the top of the jacket. Many pipe makers prefer this type up to at least 30".

Tongue Forming Headers (Open Type)—These headers are constructed with the top open so the concrete can be worked into place after the header has been placed on the form. Many prefer this type over the closed type.

Number of Headers Needed—We recommend one header for each form.

Shoveling Plate—This plate is constructed of a heavy circular plate with circular channel iron welded to bottom, the channel iron fitting inside the core. This plate serves as a receiver for the concrete where it is distributed into the forms. One shoveling plate will take care of several forms of the same size.

Hopper—The type hopper furnished will be circular, reinforced with channel iron and equipped with wall spacers, which holds the core and jacket in a central position, assuring a uniform wall thickness at all times. One hopper will take care of several forms of the same size.

Hand Tamped Pipe Semi-Dry Mix Concrete

Only Quinn Heavy Duty forms are recommended for making pipe by the semi-dry process. The reason for this is that only extra-strong, rigid forms will stand up under heavy, irregular hand tamping. Suggestions which will assist you in selecting the proper kind and amount of form equipment will be found on pages 18 and 19 in the catalog.

Remember Quinn Concrete Pipe equipment is built for service and is the result of over twenty-five years experience in the manufacture and sale of pipe forms and pipe machinery.

QUINN HEAVY DUTY PIPE FORMS AND ATTACHMENTS

PRICE LIST

Tongue and Groove Type

EFFECTIVE MAY 1, 1937

Standard Wall Thickness

Diameter Pipe—In.	Wall Thickness—In.	LENGTH OF PIPE						Groove Form- ing Pallet BASE TYPE	Groove Form- ing Pallet PLAIN TYPE	Tongue Form- ing Header CLOSED TYPE	Tongue Form- ing Header OPEN TYPE	Shoveling Plate	Hopper
		30 in.	36 in.	48 in.	60 in.	72 in.	96 in.						
10	1 3/4	\$50.00	\$54.00	\$62.00				\$ 1.50	\$ 1.25	\$ 1.50	\$ 1.50	\$ 2.25	\$ 5.00
12	2	54.00	57.00	68.00	75.00	95.00	134.00	2.00	1.50	3.00	2.50	2.50	5.50
15	2 1/4	58.00	61.00	70.00	85.00	101.00	137.00	2.50	2.00	4.50	4.00	3.00	6.00
18	2 1/2	62.00	66.00	77.00	92.00	118.00	150.00	3.50	2.50	5.00	4.50	4.00	7.00
21	2 3/4	68.00	75.00	83.00	98.00	131.00	160.00	4.50	2.75	6.00	5.50	5.00	8.00
24	3	70.00	81.00	91.00	112.00	141.00	171.00	6.00	4.50	7.00	6.50	6.00	9.00
27	3	74.00	85.00	105.00	122.00	146.00	190.00	6.50	5.00	8.00	7.50	7.50	9.50
30	3 1/2	77.00	88.00	111.00	133.00	151.00	210.00	8.00	6.00	9.50	8.50	9.00	10.00
33	3 3/4	85.00	92.00	118.00	143.00	160.00	225.00	9.00	7.00	11.50	10.50	10.50	11.00
36	4	92.00	98.00	124.00	150.00	176.00	235.00	12.00	9.00	13.50	12.50	11.00	12.00
39	4 1/4	98.00	108.00	130.00	155.00	184.00	256.00	15.00	10.00	17.00	16.00	12.00	13.00
42	4 1/2	105.00	112.00	137.00	165.00	198.00	270.00	16.00	12.00	19.00	17.00	14.00	14.00
45	4 1/2			148.00	176.00	216.00	282.00	18.00	13.00		19.50	16.00	15.00
48	5			168.00	187.00	238.00	305.00	19.50	16.00		22.50	17.00	16.00
54	5 1/2			189.00	210.00	273.00	347.00	28.00	20.00		30.00	18.00	17.00
60	6			201.00	230.00	286.00	375.00	32.00	21.50		35.00	22.00	20.00
66	6 1/2			216.00	249.00	334.00	415.00	45.00	26.00		42.00	27.00	22.00
72	7			242.00	275.00	350.00	500.00	60.00	47.00		63.00	34.00	30.00
84	8			293.00	325.00	438.00	570.00	82.00	70.00		85.00	44.00	32.00

Approximate Shipping Weights of Crated Forms, Pallets, Headers, Etc.,
in Pounds, of the Various Sizes and Lengths.

10	1 3/4	255	280	350	450			16	6	5	5	9	23
12	2	275	305	415	500	600	850	16	8	11	14	10	25
15	2 1/4	325	370	480	620	727	1050	25	15	16	20	15	27
18	2 1/2	400	440	550	735	806	1175	37	21	23	28	20	32
21	2 3/4	450	500	660	815	970	1325	38	24	33	28	25	36
24	3	525	570	780	915	1085	1475	62	42	43	45	32	42
27	3	545	620	845	1000	1175	1600	68	42	49	48	50	47
30	3 1/2	600	675	945	1120	1350	1750	70	50	53	50	60	51
33	3 3/4	650	745	1010	1180	1375	1900	90	65	65	66	70	55
36	4	730	815	1100	1275	1575	2040	122	90	89	90	83	60
39	4 1/4	780	855	1175	1340	1590	2165	150	100	140	103	86	65
42	4 1/2	825	900	1270	1450	1735	2320	155	108	150	110	110	70
45	4 1/2			1350	1580	1850	2440	200	125		140	125	75
48	5			1540	1750	2250	2820	215	160		157	140	80
54	5 1/2			1650	1915	2500	3125	282	200		206	175	85
60	6			1835	2120	2700	3425	300	215		230	220	100
66	6 1/2			2030	2370	2875	3775	350	260		300	275	110
72	7			2250	2730	3065	4000	587	470		432	335	120
84	8			2800	3100	3800	4390	850	780		735	440	140

Hand Tampers for making pipe by the
semi-dry mix \$1.00 each

Hand Spaders for making pipe by the
wet process \$1.00 each

When ordering equipment observe the following:

Quinn Forms are built of heavy material, rolled true to shape and reinforced, assuring a strong rigid member that will stand up under hard use, holding their original shape, thus producing a pipe with a uniform wall thickness.

Quinn Forms are also a great labor saver as there are no bolts or nuts to be removed when the forms are ready to be removed from the finished pipe. They are assembled quickly for filling with concrete, as the locks on the Jackets are quick acting and one full turn of a hand socket wrench reduces the diameter of the Core for quick removal.

Field or hand cast pipe has a standard wall thickness as outlined in the price list and

(over)

same conforms to general specifications for the size pipe. The forms as listed will produce a pipe of the same length; for instance, a 24" x 48" x 3" wall Form for Tongue and Groove will make a pipe having a laying length of 48". In making cast pipe it is necessary to leave the forms in place, after being filled with concrete, until the concrete has hardened sufficiently so the forms can be removed without injury to the concrete. Weather permitting, forms can be filled at least twice each day.

ATTACHMENTS

Groove Forming Pallets (Base Type)—This type pallet is constructed to form a base for the Jacket and Core to rest on, allowing the pipe to be made in the open or along the line of ditch. These pallets do away with the necessity of using a concrete floor or an individual wood platform for each pipe made. The base type pallet can be used on the ground outside a building or inside if desirable.

Groove Forming Pallets (Plain Type)—This type fits inside the form but it is necessary to have a concrete floor or individual wood platform for the pallet and form to rest on. Where pipe is made inside a building having a concrete floor or outside where a concrete floor has been laid, the plain pallets work just as readily as the above base type pallets.

Number of Pallets Needed—At least three times as many pallets for each form should be ordered, as the pipe should be left on the pallet after the form is removed for at least 24 hours, or until the concrete has hardened enough so the pipe can be tipped over for the removal of the pallet.

Tongue Forming Headers (Closed Type)—This type headers are the same as the plain pallet except being equipped with upright handles. When form has been filled to the top, a stiffer concrete mix is used for making the tongue. The concrete is simply towed on top to a peak against the core (the core being longer than the jacket), after which the closed header is slipped over the core and worked back and forth until it has settled against the top of the jacket. Many pipe makers prefer this type up to at least 42".

Number of Headers Needed—We recommend one header for each form.

Tongue Forming Headers (Open Type)—These headers are constructed with the top open so the concrete can be worked into place after the header has been placed on the form. Many prefer this type over the closed type.

Shoveling Plate—This plate is constructed of a heavy circular plate with circular channel iron welded to bottom of same, the channel iron fitting inside the core. This plate serves as a receiver for the concrete where it is distributed into the forms. One shoveling plate will take care of several forms of the same size.

Hopper—The type hopper furnished will be circular, reinforced with channel iron and equipped with wall spacers, which holds the core and jacket in a central position, assuring a uniform wall thickness at all times. One hopper will take care of several forms of the same size.

Hand Tamped Pipe Semi-Dry Mix Concrete

When it is desirable to make plain pipe unreinforced in the smaller sizes and not exceeding 36" in length, a semi-dry concrete can be used, tamping the concrete into the forms and removing same at once.

This process calls for one or more forms of a given size and at least twice as many pallets as pipe made during the day.

The set-up would be as follows:

- 1 Form of a given size.
- 1 Hopper.
- 1 Shoveling Plate.
- 1 Tongue Header Closed Type.
- 2 Tampers.
- 10 or more Pallets.

The price list applies to this type of equipment and when ordering specify whether hand tamped pipe or wet cast pipe is to be made. Pages 18 and 19 of the catalog will give you a suggested set-up.

Remember Quinn Concrete Pipe equipment is built for service and is the result of over twenty-five years experience in the manufacture and sale of pipe forms and pipe machinery.

QUINN WIRE & IRON WORKS

BOONE, IOWA, U. S. A.

QUINN MEDIUM DUTY PIPE FORMS AND ATTACHMENTS

PRICE LIST

Tongue and Groove Type

EFFECTIVE MAY 1, 1937

Standard Wall Thickness

Diameter Pipe	Wall Thickness	LENGTH OF PIPE				Groove Form- ing Pallet BASE TYPE	Groove Form- ing Pallet PLAIN TYPE	Tongue Form- ing Header CLOSED TYPE	Tongue Form- ing Header OPEN TYPE	Shoveling Plate	Hopper
		30 in.	36 in.	48 in.	72 in.						
10 in.	1 3/4 in.	\$35.00	\$36.00			\$2.00	\$1.25	\$1.50	\$1.50	\$2.25	\$5.00
12	2	37.00	39.00	\$50.00	\$66.00	2.50	1.50	3.00	2.50	2.50	5.50
15	2 1/4	40.00	44.00	56.00	71.00	3.00	2.00	4.50	4.00	3.00	6.00
18	2 1/2	48.00	51.00	59.00	76.00	4.00	2.50	5.00	4.50	4.00	7.00
21	2 3/4	52.00	55.00	65.00	84.00	5.50	2.75	6.00	5.50	5.00	8.00
24	3	55.00	58.00	69.00	91.00	6.50	4.50	7.00	6.50	6.00	9.00
27	3	59.00	63.00	74.00	97.00	7.00	5.00	8.00	7.50	7.50	9.50
30	3 1/2	61.00	65.00	79.00	104.00	8.50	6.00	9.50	8.50	9.00	10.00
33	3 3/4	67.00	73.00	95.00	120.00	10.00	7.00	11.50	10.50	10.50	11.00
36	4	72.00	77.00	108.00	135.00	13.00	9.00	13.50	12.50	11.00	12.00
39	4 1/4		113.00	143.00	16.00	10.00	17.00	16.00	12.00	13.00	
42	4 1/2		120.00	152.00	17.00	12.00	19.00	17.00	14.00	14.00	
45	4 1/2		130.00	164.00	18.00	13.00		19.50	16.00	15.00	
48	5		135.00	182.00	20.00	16.00		22.50	17.00	16.00	
54	5 1/2		150.00	202.00	32.00	20.00		30.00	18.00	17.00	
60	6		170.00	220.00	36.00	21.50		35.00	22.00	20.00	

Approximate Shipping Weights, Crated, of Forms, Pallets, Headers, Etc.,
in Pounds, in the Various Sizes and Lengths.

10 in	1 3/4 in.	195	205			16	6	5	5	9	23
12	2	205	220	310	475	19	8	11	14	10	25
15	2 1/4	240	270	365	540	29	15	16	20	15	27
18	2 1/2	275	300	420	615	40	21	23	28	20	32
21	2 3/4	300	340	470	685	53	24	33	28	25	36
24	3	350	375	527	750	67	42	43	45	32	42
27	3	395	400	550	810	70	42	49	48	50	47
30	3 1/2	415	435	613	900	75	50	53	50	60	51
33	3 3/4	430	475	660	950	90	65	65	66	70	55
36	4	465	520	710	1010	125	90	89	90	83	60
39	4 1/4		750	1075	145	100	140	103	86	65	
42	4 1/2		850	1150	165	108	150	110	110	70	
45	4 1/2		890	1250	200	125		140	125	75	
48	5		1000	1375	245	160		157	140	80	
54	5 1/2		1100	1500	295	200		206	175	85	
60	6		1200	1650	330	215		230	220	100	

Hand Tampers for making pipe by the
semi-dry mix \$1.00 each

Hand Spaders for making pipe by the
wet process \$1.00 each

When ordering equipment observe the following:

Quinn Medium Duty Forms are built of lighter material, but reinforced, producing a very strong construction. These Forms can be recommended for operation where long and continuous service is not required. These Forms produce a high quality pipe, but will not stand rough usage like the Heavy Duty Type equipment.

For medium work these forms will answer the purpose and give excellent service.

Quinn Forms are also a great labor saver as there are no bolts or nuts to be removed when the forms are ready to be removed from the finished pipe. They are assembled quickly for filling with concrete, as the locks on the Jackets are quick acting and one full turn of a hand socket wrench reduces the diameter of the Core for quick removal.

Field or hand cast pipe has a standard wall thickness as outlined in the price list and

(over)

same conforms to general specifications for the size pipe. The forms as listed will produce a pipe of the same length; for instance, a 24" x 48" x 3" wall Form for Tongue and Groove will make a pipe having a laying length of 48". In making cast pipe it is necessary to leave the forms in place, after being filled with concrete, until the concrete has hardened sufficiently so the forms can be removed without injury to the concrete. Weather permitting, forms can be filled at least twice each day.

ATTACHMENTS

Groove Forming Pallets (Base Type)—This type pallet is constructed to form a base for the Jacket and Core to rest on, allowing the pipe to be made in the open or along the line of ditch. These pallets do away with the necessity of using a concrete floor or an individual wood platform for each pipe made. The base type pallet can be used on the ground outside a building or inside if desirable.

Groove Forming Pallets (Plain Type)—This type fits inside the form but it is necessary to have a concrete floor or individual wood platform for the pallet and form to rest on. Where pipe is made inside a building having a concrete floor or outside where a concrete floor has been laid, the plain pallets work just as readily as the above base type pallets.

Number of Pallets Needed—At least three times as many pallets for each form should be ordered, as the pipe should be left on the pallet after the form is removed for at least 24 hours, or until the concrete has hardened enough so the pipe can be tipped over for the removal of the pallet.

Tongue Forming Headers (Closed Type)—This type headers are the same as the plain pallet except being equipped with upright handles. When form has been filled to the top, a stiffer concrete mix is used for making the tongue. The concrete is simply trowled on top to a peak against the core (the core being longer than the jacket), after which the closed header is slipped over the core and worked back and forth until it has settled against the top of the jacket. Many pipe makers prefer this type up to at least 42".

Number of Headers Needed—We recommend one header for each form.

Tongue Forming Headers (Open Type)—These headers are constructed with the top open so the concrete can be worked into place after the header has been placed on the form. Many prefer this type over the closed type.

Shoveling Plate—This plate is constructed of a heavy circular plate with circular channel iron welded to bottom of same, the channel iron fitting inside the core. This plate serves as a receiver for the concrete where it is distributed into the forms. One shoveling plate will take care of several forms of the same size.

Hopper—The type hopper furnished will be circular, reinforced with channel iron and equipped with wall spacers, which holds the core and jacket in a central position, assuring a uniform wall thickness at all times. One hopper will take care of several forms of the same size.

Hand Tamped Pipe Semi-Dry Mix Concrete

When it is desirable to make plain pipe unreinforced in the smaller sizes and not exceeding 36" in length, a semi-dry concrete can be used, tamping the concrete into the forms and removing same at once.

This process calls for one or more forms of a given size and at least twice as many pallets as pipe made during the day.

The set-up would be as follows:

- 1 Form of a given size.
- 1 Hopper.
- 1 Shoveling Plate.
- 1 Tongue Header Closed Type.
- 2 Tampers.
- 10 or more Pallets.

The price list applies to this type of equipment and when ordering specify whether hand tamped pipe or wet cast pipe is to be made. Pages 18 and 19 of the catalog will give you a suggested set-up.

Remember Quinn Concrete Pipe equipment is built for service and is the result of over twenty-five years experience in the manufacture and sale of pipe forms and pipe machinery.

QUINN WIRE & IRON WORKS

BOONE, IOWA, U. S. A.

6000

